THIS WEEK'S NATIONAL PETROLEUM NEWS

The Recognized Authority on News, Markets and Technical Developments in the Oil Industry

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COMING MEETINGS

General Expositions

Great Lakes Exposition, Lake Front, W. 3rd to E. 22nd Sts., Cleveland O., June 27 to Oct. 4.

Kansas Diamond Jubilee Exposition, Wichita, Oct. 7 to 17.

Texas Centennial Exposition, Dallas and Ft. Worth, June 6 to Nov. 29.

Oil Meetings

American Petroleum Institute, Division of Production, Mid-Continent District, Oklahoma City, Okla., sometime in Sept.

Ohio Petroleum Marketers Association, Netherland-Plaza Hotel, Cincinnati, Sept. 16, 17.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 16, 17, 18.

National Association of Petroleum Retailers, 4th annual meeting and exhibit, Carter Hotel, Cleveland, O., Sept. 17, 18, 19.

Oil Trades Assoc. of New York, outing. Pelham Country Club, Pelham Manor, N. Y., Sept. 22.

National Tax Conference, Indianapolis, Ind., week of Sept. 28.

American Association Petroleum Geologists, Pacific Section, Los Angeles, Calif., sometime in October.

Twenty-fifth National Safety Congress, Petroleum Section, Atlantic City, N. J., Oct. 5 to 9.

North American Gasoline Tax Conference, Richmond, Va., Oct. 6 to 9.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Fort Worth, Texas, Oct. 8 and 9.

National Road Oil and Asphalt Conference, Tulsa, Oct. 8, 9.

National Association of Lubricat-

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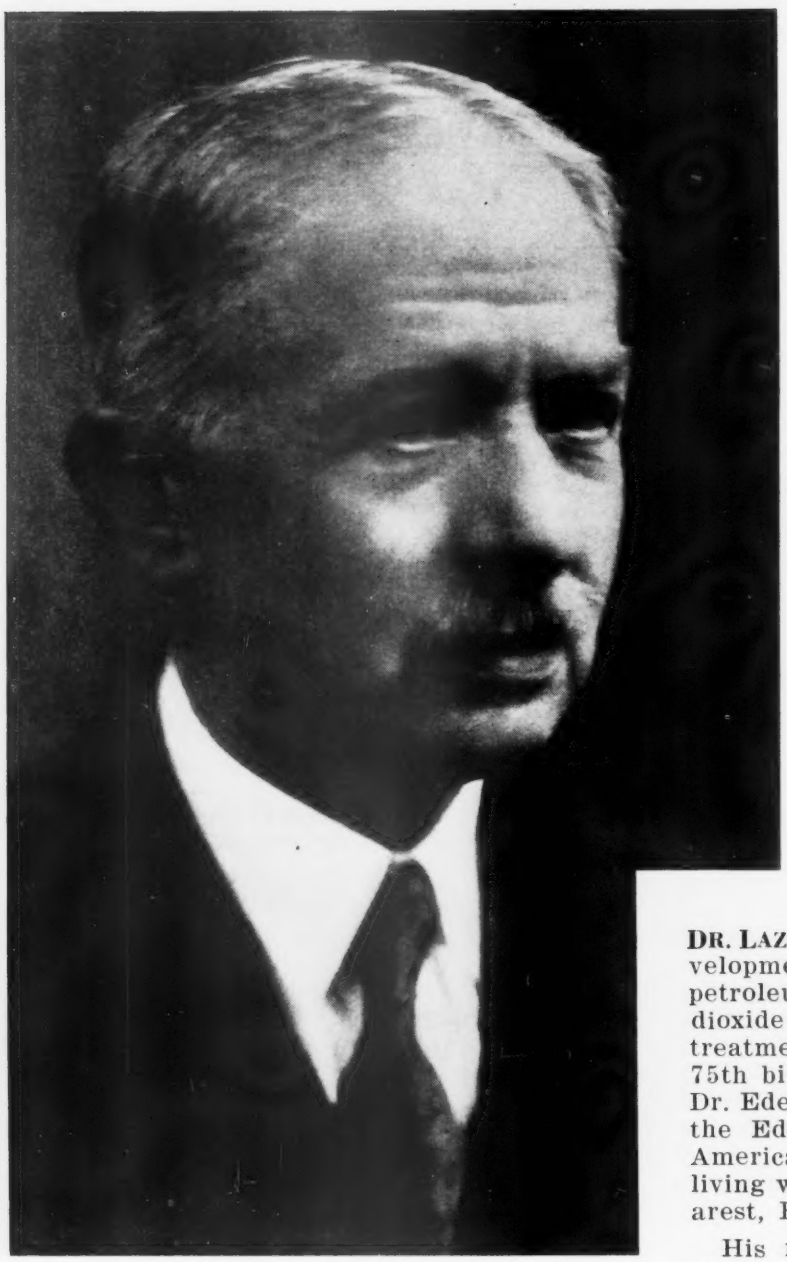

DR. LAZAR EDELEANU . . . pioneer in the development of solvent refining methods in the petroleum industry, and inventor of the sulfur dioxide or Edeleanu process of selective solvent treatment of petroleum fractions, reaches his 75th birthday anniversary on Sept. 14, 1936. Dr. Edeleanu retired from the management of the Edeleanu Gesellschaft, Berlin, and the American Edeleanu Co., in 1931, and is now living with his family in his native city, Bucharest, Roumania.

His research which developed the sulfur dioxide method of treating was carried out during the period from 1900 to 1910, while he was director of the Royal Geological Institute, Bucharest. When he assumed the management of the Allgemeine Gesellschaft fuer Chemische Industrie, in Berlin in 1910, he continued the commercial development of this process. This company later was known as the Edeleanu Gesellschaft.

This process, first applied to the treatment of light distillates, especially those used as lamp oils, was later extended to treat heavy oils such as lubricating oils. At present more than 40 installations of this process, including several in the United States, are in operation, and have made Dr. Edeleanu's name well known in world oil circles.

Many honors have been received by Dr. Edeleanu for his scientific and industrial achievements. In 1931, in recognition of his contributions to petroleum technology, he was awarded the Redwood Medal by the Institution of Petroleum Technologists, in London.

NATIONAL PETROLEUM NEWS

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Price Control Effects of Oil Proration Argued at World Power Conference

By A. M. PETTY
N.P.N. Washington Bureau

WASHINGTON, Sept. 8

THE question of whether state laws prorating production of crude oil are conservation measures or means for price-fixing and price-control precipitated a discussion at the Sept. 7 session of the World Power Conference.

In a paper by Professor M. W. Watkins of New York University, it was stated that the essential aim of the production-control program under the oil code was "business stabilization" and not conservation. He pointed out that it was based solely upon estimates of market demand.

This statement was challenged by Robert Hardwicke, of Fort Worth, oil lawyer and author of one of the oil papers presented. Hardwicke said leaders of the oil industry as far back as 1925 began giving attention to elimination of wasteful practices.

Laws were sought which dealt—not with price control, but solely with conservation, he added. It is but a coincidence that price was aided by conservation.

Hardwicke cited court decisions including those of the U. S. Supreme Court holding that state proration laws limiting production to market demand are conservation measures and not means of price-fixing or price-control.

He explained how production in excess of market demand leads to physical waste, such as evaporation in storage. Lack of ratable production is one of the most prolific sources of waste; there is no other way of controlling production. Limiting production to market demand means that each producer can sell his oil, Hardwicke said.

Norman E. Meyers, former member of the Petroleum Administrative Board and now connected with the Securities and Exchange Commission, took a middle ground.

"It cannot be gainsaid that the industry was primarily interested in conservation because of the incidence of price," Meyers stated. "The federal government, while interested in price, was primarily interested in the conservation aspects of the problem and the saving of waste in a natural resource."

Meyers also discussed what he regards as the three vital issues facing the petroleum industry—waste, proration and price. The industry has a great deal to be proud of, he said, despite the failure to solve these issues satisfactorily.

Gross wastes have been eliminated through operation of the proration statutes with the cooperation of the industry, but waste has not been completely conquered, Meyers said. He cited the "waste" of bottom-hole pressures in Kettleman Hills and the "inadequate" development of production from wells in that field which are "daily decreasing the ultimate recovery from that field."

While East Texas production is almost down to quota, it is "not a well-regulated field," according to Meyers. The problem of excess drilling has not been solved. Bottom-hole pressures, so far successfully maintained, are now facing a serious issue, he said, so long as allocation of production is continued on the basis of barrels of oil produced. He admitted that it would be a serious economic wrench to force East Texas to prorate in accordance with total displacement (including salt water), instead of crude oil displacement alone.

Meyers took issue with Dr. Joseph E. Pogue's article presented at the conference which speaks of the "mechanism of price" as a regulatory agent in the production and sale of oil and traces the price through to the tank car market.

"If Dr. Pogue," Meyers commented, "had said the 'delicate barometer' that the tank car market *was*, I think that there would be no argument. However, in the last few years we have seen the increased inte-

gration in industry which has cut down the volume of oil passing to the tank car market.

"We have seen the development of term contracts to supply which have cut down the volume of the tank car market (in fact in effect those contracts are the tank car market), and we have seen the rising importance of the tank car market as it has narrowed in size," Meyers continued.

IF THE tank car market were the "delicate barometer" that it should be, Meyers added, there would not be the anomalous situation now where a federal grand jury has already indicted practically every outstanding oil man and major oil company, except a few on the East Coast, and still has not yet adjourned.

"The charges of the indictment," Meyers explained, "are that the tank car market is a manipulated market, that there has been a conspiracy on the part of the oil industry to control that market in the interests of the major companies and to the disadvantage of the jobbers. Whether or not that can be proved in the final test, of course, is open to conjecture.

"There are many in this room who will not agree to the wording of the indictment and will hold that the tank car market has become narrow through economic forces without need of conspiracy, without intent of conspiracy," Meyers added. "And if that should prove to be the case when the analysis is complete, the fact will still remain that the tank car market has become so narrow that whether we like it or not it is not susceptible to change due to the forces of the market and that there is no price mechanism which functions as a price mechanism should function to achieve the results to be desired."

Turning back to Dr. Pogue's paper, Meyers remarked that if the price mechanism of crude oil has its reflection on the potential supply of crude, what is the effect of control of the current supply likely to have upon the price structure?

If proration were thoroughly adequate in this country so that crude oil was actually restricted to market demands, then the price would be a function of the current supply as much as the current supply is a function of the price, Meyers stated. But, he pointed out, there has been no balance of crude production in this country except for a few months under the oil code.

"The price of crude oil since September, 1933, when it was first raised with the intervention of the federal government has been a fairly stable price," Meyers continued. "It has hardly been a price which has been a result of the bargaining between the major buyers and the government. It may not have been in terms of actual trading, but the fact remains that the price stays up as long as the state allocations come within shouting distance of the market demand figures presented by the Bureau of Mines.

"As long as we have the relative stability and inflexibility of the price there is likely to be little outcry," Meyers added, "but let me view with alarm the future of the oil industry when proration becomes successful and free price becomes a question of debate.

"If there is not a thorough understanding on the part of the government at that time as to the mechanism of price, proration and waste, we are likely to have as much concern on the part of the anti-trust laws with the price mechanism of crude oil as they now display as to the price mechanism of the narrow tank car market today," Meyers said in conclusion.

Synthetic Motor Fuels Discussed At World Power Conference

WASHINGTON, Sept. 8—DEVELOPMENT of synthetic gasoline from coal is progressing in Germany and other countries with meager oil reserves but the high cost of such motor fuels so far has discouraged hydrogenation of coal in the United States.

So long as the price of gasoline from crude oil stays at its present low level in this country, there is little likelihood of its place being usurped by synthetic motor fuels, according to the conclusions of economists at the World Power Conference.

"Hydrogenation," writes J. P. Williams, Jr., president of the National Coal Association, "has not been attempted in the United States on a commercial scale; and it is doubtful if it can be undertaken until the reserves of petroleum have reached the level where sufficient motor fuel cannot be supplied by the oil industry, or until the cost of hydrogenation has been substantially reduced.

"Hydrogenation, as developed in other countries, has many possibilities along this line, but the indicated manufacturing cost of 3 to 4 cents a liter (slightly more than a quart) for motor fuel is prohibitive at present," Williams continued.

"Indeed, it is probable this amount does not indicate the true cost, for hydrogenation plants require a very heavy capital outlay and it has not yet been determined how long plant and equipment, subject to high pressures and corrosion, will last. Should their life be unusually short, figures of cost must necessarily be revised upward," Williams added.

Perhaps, the greatest strides in hydrogenation have been made in Germany (See Schlattman-Koppenberg paper published in this issue).

Plans for the distribution in Germany of natural and manufactured gas as a motor fuel were also revealed. Automobiles which can operate efficiently on this fuel will soon be marketed on a limited scale, the Germans say. The gas is to be carried in steel flasks with pressures of about 2500 pounds and pumped from filling stations by multi-stage compressors that assure rapid and safe filling, it is said.

The Japanese optimistically

(*Continued on page* 15)

The Editor's Viewpoint

Jobber Recognition Would Halt Turmoil

By Warren C. Platt, *Editor*

WE WILL go a bit further than T. Wilbur Thornhill, veteran jobber of Charleston, S. C. does in the following letter to NATIONAL PETROLEUM NEWS recently. He says if "the major oil companies would only go half way fair with the decent jobber there would not be all this turmoil in the industry," referring to the recent indictments for alleged conspiracy at Madison, Wis. We say that if the chief executives of the majors only *knew* who the Independent jobber is and if they would only *think* about him, there would probably not be this turmoil.

There are a great many important factors entering into the story of the present turmoil in the oil industry and into the story of the indictments handed down at Madison, Wis. But underlying both is the fact that the Independent jobber of today is not really known by and to the high executives of the large companies. He is comparatively little if any used as an outlet by these majors and, in the rush and growth of the industry, he has been largely overlooked. This was shown by the way the Independent jobber was pushed aside at the inauguration of the code and the way he was kept out of the inner sanctum of the industry's operations under the code. Published complaints to this effect, by NATIONAL PETROLEUM NEWS, brought the rejoinder from some of these high code officials that "the refiner will look after his jobbers." To which we replied the jobber is not a chattel of any refiner.

So many of these major company executives have grown up in the industry without having come in contact, at least to any extent, with the Independent jobber. They have heard of him and look upon him as a "middleman" and some even think of him as "unnecessary" little realizing that he is doing the very same thing in the distribution of petroleum products as the major's own division and district organizations, and generally doing it more economically.

The large company high executives only hear of the jobber incidentally and then either that he is not a customer of the company or that only a few handfuls of jobbers are customers. In numbers to the chief executive, they are not 25 or 50 out of a million or many million of customers.

These executives do not see the jobber as the rest of us do who have lived with them and worked with them, as I have for nearly 28 years now. These major company executives do not see sitting at the Independent jobber's dinner table—as I have, thanks to this same Wilbur Thornhill among others—a candidate for U. S. Senator, the editor of one of the leading newspapers of the state, two big home town bankers, the prominent surgeon and so on. These big major executives do not realize, nor do they easily have opportunity to realize, that the Independent jobber in his home community bears about the same relation to it as the major executive does to his big metropolitan community, yes even more so in a great many cases.

The major oil executive should realize all this but he doesn't. He has many things to attend to and a dozen or more customers, or even less, out of millions naturally will not rate his attention especially as long as he does not know them personally.

BUT at the same time has the Independent jobber done his full part in seeing that this major executive knows him? In individual cases probably yes, but taking the jobbers as a whole—the 10,000 or so of them in the country, decidedly no. NATIONALLY the jobber has done little to put himself into the nation's picture. For many years L. V. Nicholas headed up the jobbers' effort to make themselves nationally known and heard but Mr. Nicholas finally quit through lack of sufficient jobber support. More recently Paul Hadlick has been attempting the same thing but the record does not show that he has met with any overwhelming support to say the least.

There is a natural reason for this and that is, except in some national crisis, as under the NIRA Code, the jobber's interest primarily is local, local to his home state and local to his immediate marketing territory. There are many times when he should look out beyond these limits for his own long time good, but human nature is such that that is hard to do when there is no sign of an immediate tornado coming over the horizon at him.

Right now the Independent jobber should be giving the most serious consideration to the effects of crude oil conservation as at present practiced, upon his business, but what jobber is doing it? Probably very few. Yet crude oil con-

servation, held to economic market demand, with all "hot" or illegally produced oil eliminated, means probably as jobbers operate today, the absolute end of any open tank car market.

It was conservation of crude oil by states, acting under the advice of the national government that helped bring about the tightening up of the tank car market during the period covered by this recent government indictment. Even the government's official buying programs under Oil Administrator Ickes' approval, were based upon strict enforcement of crude oil conservation and were all to the end of restricting the open tank car market which most jobbers use for the price gauge in their contracts but in which mighty few jobbers operate.

It is high time that the Independent jobber knew what crude oil conservation means to him. Its development and scientific progress, has been carried far enough in recent years by the states of Texas and Oklahoma, and Kansas particularly to show that it is permanent. Now the problem is to eliminate its crudeness, any unfairness and fit it to the fair needs of all in the industry. It is useless for any jobber, should he have the inclination, to argue against crude conservation. That is an absolute necessity to today's and tomorrow's civilization. The jobber's aim must be to understand the problem which calls for crude conservation, to know what has been done to date and to adapt his own business to this necessity of modern civilization and at the same time see that all parties to the continuing solution of the problem understand where he, the jobber, should fit in.

THE jobbers' part in this problem is not going to be solved by sitting in a few meetings and, in the haze of cigar smoke, discussing tank car prices and who offered the dealer around the corner a new pump. The jobber will have to study this problem from the owner of the producing land and the owner of the well right down to his pump and his gasoline customers.

The time has again come—in fact it has been here for some years now—when the jobber for his own good must take a national view of the oil business. He must know what is going on and he must be able to take a constructive position that is for the best interests of the country as a whole on the problems of today. The jobber not only has the matter of his relationship to further development of crude oil conservation, but his relationship to the elements of transportation, to the further development of water ways, to further development and protection of motor truck transportation; particularly he has the opportunity of a lifetime in planning his relationship to the awakening of the railroads of the country who are revolutionizing their ideas of handling traffic and writing freight rates that will get the maximum volume of business regardless. At the present time, with a few exceptions, the jobbers have done absolutely nothing about the rejuvenation of thought on oil freight rates by the railroads, nor have the Independent refiners, their sources of supply, either.

All these things but bring me back to Mr. Thornhill's letter which is reproduced below. The jobber has not been treated fairly partly, at least, because he and his necessary contribution to efficient industry operation, are not known. He and his contribution are not known partly at least because of his own neglect of his opportunities. New opportunities are today before him and if they are not adequately handled, it probably will be only a question of time before we will again have "turmoil" and perhaps more lawsuits in this oil industry.

New and mighty forces that are not only at work in the country at large but especially in this oil business, make the events of today of tremendous importance to every one in the industry and to none more so than to the independent jobber. May he arise and courageously and intelligently meet them to his own, the industry's and the the country's lasting benefit.

Here's is Mr. Thornhill's letter which started all this:

Mr. Warren C. Platt, Editor
National Petroleum News
Cleveland, Ohio

Dear Mr. Platt:

We have enjoyed very much the articles with reference to the Madison hearing. Taking the situation as it appears I think you are quite right in all that you say, but, really, are we looking at the whole picture? Or just a part of the picture? In your discussion you look at the picture as applies to the government coming in and stopping what they probably suggested. Quite right, but at the same time while the companies were doing this, they were lowering the price to the consumer as is very clearly shown in the government bids. Then, they began giving any and everybody national contracts under which price they can not possibly come out if it takes them the retail price to come out on other commercial consumers which haven't a national heir in their purchasing department.

Then, the other side of the picture is that they began cutting the margin of the jobbers. Certainly there is no doubt in my mind that someone got together and cut the jobbers in our part of the country for at one time all contracts were cancelled and renewals were written at a cent in some and a half cent in others above what they had previously paid for the past two or three years. I believe that if the majors would go half way fair with the decent jobbers, there wouldn't be all this turmoil and kick in the oil business. We could all go along and make a little money, and be friendly toward each other, but I would like to see you very sincerely discuss in your usual frankness the other two pictures that I bring to your attention.

My very kindest personal regards.

Yours for CO-OPERATION

T. Wilbur Thornhill
Charleston Oil Co.
Charleston, S. C.

SYNTHETIC MOTOR

(*Continued from page* 12)

talk of developing a 70-octane motor fuel from coal. It is said that such a fuel has been successfully produced and will probably be marketed commercially in a short time—both for automobile and aeroplane use.

In Great Britain, the hydrogenation plant of Imperial Chemical Industries at Bellingham (see N. P. N. Dec. 4, 1935, p. 19) started producing motor fuel from creosote in February, 1935, and from coal in June of that year. This fuel has a tax-advantage over imported gasoline. The plant's capacity is equivalent to 45,000,000 imperial gallons or about 4 per cent of present motor-fuel consumption in Great Britain. The plant's capital cost was somewhere around $20,000,000, it is said.

Oil is Moving Toward Equilibrium

Pogue Tells Power Meeting

WASHINGTON, Sept. 8

THE perennial debate over how much oil there still remains in the ground was resumed here this week at the Third World Power Conference.

Sir John Cadman, chairman of the Anglo-Iranian Oil Co., one of the world's largest, averaged recent estimates of reserves to indicate that there is something less than 20 years' supply available in known fields.

A "plentiful supply" for own needs in this country—was the opinion of J. Edgar Pew, vice-president of Sun Oil Co., who presided at the opening oil session on Sept. 7.

"We anticipate," said Mr. Pew, "that there is plenty of oil in this country to supply our own needs. How long our supply will serve foreign countries also, depends on developments in those countries."

Sir John's rather cautiously-worded statement on reserves was that "it is disquieting to note that the general average of recent estimates would appear to indicate the existence of something less than 20 years' consumption".

His paper was devoted to an exposition of the merits of unit-operation of oil fields. Among the advantages, he said, is that in time of fluctuating demand the surplus petroleum products can be returned to the underground reservoir.

Since 1929, when the Anglo-Iranian company adopted this policy, Sir John said, a total of about 30,000,000 barrels of products have been returned to the reservoir. Such products as light tops, natural gasoline, and fuel oil are blended at the surface before being returned to the reservoir.

Authors of the general United States oil paper presented for discussion at the opening session were Production, E. DeGolyer, New York, oil geologist; production control, Robert Hardwicke, Fort Worth; refining, Noel Robinson, vice-president of Tide Water Oil Co.; and organization, stabilization and price control, Dr. Myron W. Watkins, professor of economics at New York University.

DeGolyer's paper traced briefly the history of the oil industry, pointing out that since its birth 2500 pools have been discovered and 900,000 wells drilled, of which 650,000 have produced oil and 345,000 are still producing.

Mr. Robinson discussed the evolution of refining from the five-barrels-per-day plants in Pittsburgh to the 150,000-barrels-per-day refinery of today. Rapid strides have been made as a result of the industry's research and development work, on which more than $10,000,000 is expended annually.

The "rule of capture" and other difficulties in the way of production control were discussed in Hardwicke's paper, along with the status of imports in relation to restriction of domestic production.

Dr. Watkins' paper dealt in rather iconoclastic fashion with the economics of the industry, dwelling particularly on the code period. He concluded that the Planning and Co-ordination Committee under the oil code was "dominated" by the major companies and that the committee in turn found the Petroleum Administrative Board was "complaisant" to its suggestions.

He believes that no enduring stability for the oil industry will come until it is reorganized so that representatives of the public have a part in shaping its basic policies.

In his paper, Dr. Joseph E. Pogue, New York, consulting engineer, put forward a fifth branch of the industry—exploration, for equal importance with production, transportation, refining and marketing. He discussed the economic forces effective in each branch. He made the point that the "mechanism of price" is important in maintaining balance between supply and demand.

"Primary balance," Dr. Pogue wrote, "must be attained in respect to gasoline, but shortages or overages of other products, such as fuel oil, develop at times and create disequilibria. The mechanism by which these distortions are corrected is price, which operates to regulate demand and, through technical adaptation, to influence supply."

DR. POGUE believes that the climax of over-expansion in the marketing branch was reached during the depression and that a trend is now beginning in the opposite direction.

What Dr. Pogue sees in the future is none too cheerful news for some Independent oil jobbers who, however, are probably inured to such dire predictions by now.

"The change is slow and complex," according to Dr. Pogue, "but unless the situation is frozen by artificial action, a gradual movement in the direction of improved equilibrium seems probable. The reign of the rule of capture in oil production is being weakened, the trend of demand is again upward, and narrowing margins seem in the making.

"Contraction of margins will

be facilitated by the tendency of large oil companies, under the handicap of high costs imposed by chain store taxes and other conditions, to convert their service stations into dealer outlets by leasing their facilities to individual proprietors," he added.

"As this process goes further there will be less incentive to maintain margins sufficient to cover the costs of chain operators, and the highest-cost dealers will find the business less attractive," Dr. Pogue said.

"By the same token jobber margins will narrow and perhaps the role of the jobber will become less important in reflection of the opportunistic nature of his business," he declared.

IN DISCUSSION of the papers, Dr. Gustav Egloff, of Universal Oil Products Co., took the platform to fill in a gap which he felt existed in the treatment of oil conservation. He discussed briefly the effect of the "cracking" process on other branches of the industry, pointing out that it has conserved 6,500,000,000 barrels of crude in the last 15 years. Lubricating oils from "cracked" products have cut down consumption per 1000 car-miles about 30 per cent, he added.

In the Sept. 8 session, Dr. Egloff gave a talk on "alky-gas". He said that the farmer on the whole stood to lose more in the increased price of motor fuel with a 10 per cent alcohol blend than he gained from the sale of his surplus farm products to make alcohol.

Besides the price disadvantage, Dr. Egloff said, there are also technical difficulties in the way of "alky-gas" such as separation, hard-starting, poor acceleration, and loss in mileage per gallon.

Papers on the oil industry in nine foreign countries were submitted for discussion.

Canada has some 28,000 retail outlets for gasoline, of which 6000 are filling stations, according to the paper of P. V. Rosewarne. There were 42 refineries, with a total daily capacity of 159,400 barrels daily, in Canada at the end of 1934. Of this total refining capacity, "cracking" plants accounted for 74,300 barrels. Canada, however, produces only four per cent of its crude requirements, importing most of the rest from the U. S.

While Japan at present has no polymerization plant or solvent refining plant, Commander Enomoto of the Imperial Japanese Navy, said that it was expected that plants of these types would be erected in that country shortly.

In Great Britain, large commercial consumers, with their own storage tanks and pump installations, account for nearly half the total sales of motor fuel, the British paper said. There are about 37,000 such commercial accounts, representing 45 per cent of the total trade. In addition, many small commercial consumers buy in cans, the convenience of direct deliveries offsetting the added cost as compared with buying at dealers. There are about 34,500 dealers with a total of 90,000 pumps.

Contrary to the recent trend in this country, oil companies in Great Britain have turned back to company-operated stations. For years, distribution was mainly through agents but now the companies favor employe-operated stations.

Like in the United States, the use of tank trucks and water transportation in shipping out of ocean terminals to inland points has greatly increased in recent years.

In France, the government's policies to encourage refining there have succeeded in increasing the refining capacity of that country from 300,000 tons of crude annually in 1931 to 6,000,000 tons in 1935.

It is now possible for refineries in France to produce 95 per cent of the kerosine, 75 per cent of the gasoline, 60 per cent of the lubricating oils, 70 per cent of the gas oil and 90 per cent of the heavier road oils or fuel oils required in that country.

Although lacking oil reserves within its borders, France has strengthened its position by acquiring about one-fourth interest in the Iraq oil development In his paper, Jules Meny says that more than 70 per cent of the Iraq production was refined in France. This amounted to about 40 per cent of the refining capacity of France.

Suggests Industry Discontinue Manufacture of Fuel Oils

WASHINGTON, Sept. 8

THE oil industry should withdraw from competition with coal in the heating field and concentrate upon the production of gasoline and lubricants, according to several coal papers presented at the World Power Conference.

This marks another step in the reasoning of the coal people, resentful at the loss of their markets to fuel oil. Up to now the coal people have been demanding that something be done to "equalize competition" between fuel oil and coal. They have proposed taxes on fuel oil. But now they want the oil industry to stop making fuel oil entirely.

As part of a "national fuel policy" it is proposed that all of our oil be used for gasoline and lubricants, and that coal be used for the generation of heat. It is significant how the thread of this idea runs through several of the coal papers, including those of the National Coal Association and U. S. Bureau of Mines. It is also put forward in the discussions of conservation by some economists.

J. P. Williams, Jr., president of the National Coal Association, says in his paper:

"A national fuel policy with appropriate foresight would refrain from the use of petroleum products for ordinary generation of heat and power and conserve it for the higher use of gasoline production. Thus coal would be placed in an easier competitive position now and the need to undertake costly manufacture of liquid fuels from coal would be delayed for a considerable time."

A similar idea is expressed in

the Bureau of Mines' paper entitled "Conservation of Coal Resources," which was written by Messrs. Rice, Fieldner and Tryon. Therein it is stated:

"The national energy economy demands that technological research should be centered on coal so that it can meet all of the nation's requirements which do not specifically demand a liquid fuel. The petroleum supply should be reserved for those special automotive needs that can be served best by a liquid fuel, thus delaying as long as possible the day when motor fuel must be made from coal at necessarily higher cost."

WRITING on national power and resource policies, George Soule, editor of "New Republic," states that oil competes with gas and coal "as a heating agent in industry, transportation, and in homes; a comparatively limited resource is thus employed in preference to a more abundant one."

Even in the Bureau of Mines' paper entitled "Conservation of Petroleum and Natural Gas" the topic of competing fuels is touched upon. After concluding that some form of production control will continue in the United States, the Bureau of Mines adds:

"In fact, allocation of production at some future time may involve the necessity of making allotments between competing fuels."

The thread running through these papers would seem to tie in with the survey of competing fuels or forms of energy which the National Resources Committee, of which Secretary Ickes is chairman, has been planning for some time. This survey, it is understood, is to study the uses to which oil, gas, coal, hydroelectric power and other forms of energy are being put.

Plan Montana Refinery

GREAT FALLS, Mont.—Santa Rita Oil & Gas Co. is planning to construct a 2500-barrel refinery to process Cut Bank crude. L. B. O'Neil, president of the company, in announcing plans for the plant, said it would be named the Northwest Refining Co.

Madison Grand Jury Again Indicts Tracey on Perjury Charge

By Teletype
MADISON, Sept. 9

ANOTHER criminal indictment charging perjury was returned today against Wm. A. Tracey, Sinclair Refining Co., southwestern bulk sales manager, Ft. Worth, Texas, by the Federal Grand Jury sitting in Madison.

The new indictment contains 38 counts charging perjury in testimony given by Tracey before the Grand Jury here in early June, John J. Boyle, Federal District Attorney announced.

A certified copy of the indictment is being forwarded to federal court in Texas.

Today's action in Madison is the second perjury indictment against Tracey returned by the Federal Grand Jury which has been investigating petroleum marketing since May 4.

The first perjury indictment still stands. In this case the Grand Jury returned the indictment June 16 against Tracey, containing 39 counts of perjury in connection with his appearance in Madison on June 5, 8 and 9.

Charges in this first indictment related Tracey's testimony regarding questioning on "programs" of gasoline buying starting after Nov. 10, 1934. Other questions concerned Tracey's knowledge of buying programs by Paul Jacobi, Wadhams Oil Co., Tulsa; R. W. McDowell, Mid-Continent Petroleum Corp., Tulsa; and O. J. Tuttle, Cities Service Oil Co., Tulsa.

Other counts related to questioning about alleged purchasing in the Mid-Continent to remove surplus gasoline from the tank car market and stabilize tank car prices, and to charges that Tracey failed to reveal the whole truth and possessed substantial additional information regarding the questions.

The indictment was made public by District Attorney Boyle in Madison on July 1. Text of the earlier indictment was published in NATIONAL PETROLEUM NEWS, July 8th issue, page 25.

In the removal proceedings under the first indictment Tracey's attorneys applied for a writ of habeas corpus, and requested that the court order a transcript of Grand Jury proceedings made available to Tracey. Tracey had been arrested in Ft. Worth after the indictment was returned and released on bond by the U. S. Commissioner.

The hearing on Tracey's application before Federal Judge James C. Wilson, at Amarillo, Tex., on August 6, resulted in the court ordering a copy of Tracey's transcript be delivered to him by Sept. 1. Latest information indicates that this transcript was not delivered on that date.

Hammond E. Chaffetz, special assistant to the U. S. Attorney General, was in Texas on the Tracey case, and strongly resisted the insertion of the transcript into the removal proceedings.

* * *

NEW YORK, Sept. 2.—W. S. S. Rogers and R. D. Cottingham, of the Texas Corp., two of the major oil company officials indicted by a Wisconsin Grand Jury on conspiracy charges, appeared before U. S. Commissioner Cotter here today.

Both were released for a further appearance on October 1, after posting bond for $5000 and being fingerprinted and photographed. This is the same date at which the seven oil company officials who were arraigned before Commissioner Cotter on Aug. 24 will appear for a hearing.

Five other major oil company officials with headquarters at New York, who were indicted on the same charges, have not yet been arraigned. It is reported they will appear before

the Commissioner about Sept. 15 and probably appear with the other nine officials at the Oct. 1 hearing.

Grand Jury to Recess

MADISON, Sept. 9.—Federal Grand Jury in Madison, Wis., investigating petroleum industry may recess about Sept. 12, until about Oct. 5. John J. Boyle, federal district attorney, today said this now appears to be the jury's approximate schedule.

Sun Celebrates 50 Years With Special Issue

PHILADELPHIA, Sept. 9.—A 48-page edition of "Our Sun", company publication of the Sun Oil Co. here, has been published to celebrate the company's 50th anniversary in the oil business.

Led off by a picture of its founder, the late Joseph Newton Pew, it contains much interesting data, as well as current data about the company's operations. Among the outstanding events in the company's history were the opening of its first refinery at Toledo, O., in 1895; the establishment of the first branch plant at Detroit in 1899; the torpedoeing during the world war of three of its tankers carrying oil abroad; the organization of the Sun Shipbuilding Co. in 1916; the opening of the first service station in 1920 at Ardmore, Pa.; and the first delivery of gasoline by pipeline from Marcus Hook to Cleveland in June, 1931.

There are also four pages of pictures of employes with 30 years' service or more. The company, organized in 1886, now employs 14,000 people, one-third of whom are stockholders.

Burner Sales Continue Sharp Increases

WASHINGTON, Sept. 5.—Shipments of oil burners showed a further sharp increase in July both as compared with June of this year and July a year ago, according to reports of the Bureau of Census.

Shipments of oil burners (heating plant units, etc.) in July were nearly double the shipments in July last year. Shipments of distillate oil burners (cooking and water heating units, etc.) more than trebled. The bureau's figures covering distillate oil burners this year and last are not entirely comparable, however.

Summary of shipments as reported by the census bureau follows: (oil burner statistics based on reports of 152 identical manufacturers; distillate oil burner statistics for 1936 based on reports of 82 manufacturers; for 1935, 78 manufacturers).

	Oil Burners	Distillate Oil Burners
July, 1936.....	17,220	37,959
June, 1936.....	14,449	21,849
July, 1935.....	9,670	10,722

Midwest Official Dies

ST. LOUIS, Mo., Sept. 9.—J. McC. Moffett, vice president in charge of sales of the Midwest Piping and Supply Co., Inc., of this city, died Sept. 5 at his office following a heart attack. Mr. Moffett had held the same position with Midwest since its formation in 1920. He was at one time employed by the Standard Oil Co. of Indiana. Mr. Moffett was 64 years old and is survived by his wife, three daughters, and a sister.

Oklahoma Jobber Groups Complete Merger

OKLAHOMA CITY, Sept. 5—Merger of the Oklahoma Oil Marketers and the Independent Petroleum Marketers Association was announced in the August issue of the Oklahoma Oil Marketer, a magazine which has been issued the past several months by J. R. Atchison.

The announcement stated that Mr. Atchison had been retained as manager of the merged associations, the organization to retain the name of the Independent Petroleum Marketers Association.

This merger apparently brings together again the two factions which caused the disruption of the Oklahoma Oil Marketers Association two or three years ago. Mr. Atchison was secretary of that organization when the split came, and he was retained as secretary of a new organization formed by those who were not in accord with the management and policies which had been put into effect.

C. W. Cahoon, Sr., Dies

CHICAGO, Sept. 8.—C. W. Cahoon, Sr., 67, died Sept. 4, at San Francisco. Funeral was to be Sept. 9 at La Grange, Missouri. C. W. Cahoon, Jr., of the Olney Oil & Refg. Co., and Mrs. Cahoon survive.

Mr. Cahoon, Senior, was long connected and well known in the oil industry. For 33 years he was receiver and general manager of the old Waters Pierce Oil Co. He was active in the export business, and for some time president of Carson Petroleum Co.

Intimates of Mr. Cahoon recall that he was instrumental in changing over locomotives of the M-K-T Railroad from coal to oil some 20 years ago, and securing the contract for supply.

Former Canfield Official Dies

CLEVELAND—Perry R. McLean, for many years connected with Canfield Oil Co., died here Sept. 2. He was a brother of Charles M. McLean, vice-president of Canfield.

Mr. McLean joined the Canfield organization on April 1, 1910. He traveled selling Canfield's products. Later he managed the company's No. 2 plant here. Then he was in charge of the service stations in Cleveland. He also was a director of the company.

He resigned about three years ago due to ill health.

Egloff at Conference

CHICAGO, Sept. 7. — The American Institute of Chemical Engineers has appointed Dr. Gustav Egloff, Director of Research, Universal Oil Products Co., to represent the Institute at the World Power Conference, to be held in Washington, Sept. 7 to 12. On Monday, Sept. 7, he discussed "The Refining of Oil".

The Forrest Producing Co. appeared before the Oklahoma Corporation Commission Sept. 4, with a request for a permit to expand its water drive to additional leases in Nowata county. The Commission took the case under advisement.

May Extend Gas Service

PHILADELPHIA — A plan under which some eastern Pennsylvania cities would have the benefit of natural gas has been under consideration by officials of the United Gas Improvement Co. and the Public Service commission of the state, according to William W. Bodine, executive vice-president of UGI.

Harrisburg, Lebanon, Allentown, Bethlehem, and Reading are some of the larger cities to which natural gas would be available if the plan should become operative.

Wescoat Elected Director

CHICAGO, Sept. 9.—L. S. Wescoat, vice president and secretary, has been elected director of the Pure Oil Co., succeeding Fletcher S. Heath who died August 29.

Mr. Wescoat has been with Pure for 11 years. He was formerly in charge of retail sales, and recently has been in the company's financial department.

Gasoline Pump Builders Consider FTC Code

NEW YORK, Sept. 9.—The Gasoline Pump Manufacturers Association will meet at the Mayflower hotel, Washington, D. C., Sept. 23 and 24 to consider adoption of a code of trade practices. If the group decides to adopt such a code details will be worked out for presentation to the Federal Trade Commission.

The gasoline pump men also will consider how the Robinson-Patman fair trade act affects them. Speakers from the National Association of Manufacturers will discuss the act.

In a recent association bulletin G. Denny Moore, managing director, raised the question whether pump manufacturers may not find themselves in trouble with federal authorities if they give rebates or other concessions which discriminate against other buyers who are not such good chiselers.

Pump manufacturers will meet both mornings and afternoons each day. A dinner will feature the evening of Sept. 23.

Co-Author of Robinson-Patman Bill on N.P.A. Program

WASHINGTON, Sept. 9

CURRENT legislative problems of interest to oil men as well as all industry make up an important part of the program for the 34th annual meeting of the National Petroleum Association, to be held Sept. 16, 17 and 18 at Hotel Traymore, Atlantic City, N. J.

A foremost speaker will be Congressman Wright Patman, co-author of the Robinson-Patman price discrimination law. His subject will be "Equality of Opportunity in Business".

Houston Dunn, of the National Petroleum Mutual Fire Insurance Co., Philadelphia, particularly well known to eastern refiners, will tell about activities of his company, one of the pioneers in obtaining reasonable insurance rates on refinery properties.

John D. Gill, Atlantic Refining Co., Philadelphia, will make statistics interesting in his talk on "Defense and Apology".

S. J. Brill, Kendall Refining Co., Bradford, will talk on accounting problems arising under recent legislation.

Gilbert H. Montague, of the New York bar, will outline the scope of trade association activities in his talk "Trade Association Opportunities under Recent Laws and Supreme Court Decisions".

John D. Jameson, of Clarke, Sinsabaugh & Co., Inc., will tell what happens when "The Investor Looks at the Oil Industry".

Robert L. Johnson, of the staff of Time, Inc., and formerly relief administrator in Pennsylvania, will speak on "Better Personnel in Government".

President C. L. Suhr will open the meeting. Business sessions will be held during the afternoons of Sept. 16 and 17 and group conferences during the mornings. There will be no sessions on the 18th.

Among the entertainment features are a cocktail party and banquet at the Shelburne Hotel, with an amusing speaker scheduled for the banquet.

A breakfast at the Sea View Golf Club has been arranged for Friday morning by the Quaker State Oil Refining Corp. and The Pennzoil Co.

Daily Average Production, Important Districts, American Petroleum Institute Figures

	Week Ended Sept. 5 Barrels	Aug. 29 Barrels
Oklahoma City	142,200	135,050
Total Oklahoma	558,750	572,300
East Texas	433,800	434,300
Total Texas	1,170,400	1,177,600
Rodessa	61,500	59,900
Total Louisiana	235,000	233,950
California	570,300	558,500
East of Rockies	2,438,250	2,473,550
Total U. S.	3,008,550	3,032,050
Crude Imports	178,710	63,860
Total New Supply	3,187,260	3,095,910

Rathbone New Louisiana Standard President

NEW YORK, Sept. 8.—M. J. Rathbone, Jr., vice-president and general manager of the Standard Oil Co. of Louisiana, has been named president of the company to succeed J. C. Hilton, who has resigned to become a vice-president of the Standard Oil Co. of New Jersey, a Delaware corporation. Both men will assume their new positions on Oct. 1.

Mr. Hilton has been with the Louisiana company since 1931. Prior to that he served 10 years with the Jersey Standard.

Ethyl to Build Plant

The Ethyl Gasoline Corp. is planning to construct a $2,000,000 plant at Baton Rouge, La., according to press reports. Construction is expected to start about Oct. 1.

Process Improvement Is Keynote Of A.C.S. Discussions

By ARCH L. FOSTER
N. P. N. Staff Writer

PITTSBURGH, Sept. 9

WHAT types of hydrocarbons are removed from lubricating oil fractions by selective solvents? What desirable types are removed along with the undesirable constituents? At what stage is the lubricant properly refined, and how do we determine when? Why does paraffin wax crystallize to give good filtration properties, and what makes for poor filtration? These are some of the questions which were discussed and answered, in whole or in part, by speakers before the petroleum division of the American Chemical Society here this week.

What hydrocarbons are produced from water gas (carbon monoxide and hydrogen mixture); and the characteristic reactions of olefins in the presence of various metals are other subjects discussed, stimulating interest in the ever more intriguing subjects of polymerization and catalysis. Altogether the meeting was a symposium on the Why and the What of petroleum chemistry and processes.

Refiners may be throwing away, in solvent extracts, valuable constituents of lubricating fractions in the form of one-ring aromatic compounds, which may prove to be desirable constituents for lubricating oils, B. J. Mair and C. B. Willingham of the Bureau of Standards told the petroleum division this week. Selective extraction solvents probably dissolve these aromatics along with the five- or six-ring naphthenic compounds removed, they said.

The determination of the relative aromaticity of a lubricating fraction by means of the specific dispersion of the treated material is an invaluable method for following the course of the extraction process in the plant, G. H. von Fuchs and A. P. Anderson, Shell Petroleum Corp., have found. Specific dispersion correlates with chemical constitution, viscosity index, carbon residue and oxidation resistance of an oil during the progress of extraction treatment, they found. The change in aromaticity as shown by the specific dispersion values is an indicator of the degree of extraction of undesirable constituents from the fraction, they showed.

By correlating wax structure-filter rate data and the effect of varying precipitation conditions on crystal structure in propane dewaxing, A. P. Anderson and S. K. Tally of the same laboratory have been able to set up optimum conditions for plant operation, they stated. They found that, while too much asphaltic or "cementing" material interfered with crystal formation and therefore with clean, speedy filtration the complete removal of this "cementing" material also produces adverse filtering conditions. The best results are obtained by retaining in the oil the desired concentration of this inhibitor material, to form the needed clusters of crystals which give and open wax cake with good filtering characteristics, they decided.

Gasoline which may be produced from the hydrocarbon reaction product made by catalytically treating water gas (chiefly carbon monoxide plus hydrogen), possesses a low antiknock value of about 40 octane number, and must be reformed to yield good fuel for modern motors, Gustav Egloff, E. F. Nelson and J. C. Morrell, Universal Oil Products Co., find. A yield of more than 84 per cent of 66 octane number motor fuel is obtained, they stated, by removing a very light fraction from this gasoline, then cracking the heavier portion, and polymerizing the olefins formed. Fuels so produced from water gas are being manufactured in four plants in Germany, according to reports — The Badische Anilin und Soda Fabrik being leader in this activity. The fuel is called Kogasin, and its chemical composition varies with the catalyst and water gas mixture used; cobalt produces more unsaturated oils than nickel, they stated.

Degree of Refinement Shown by "Aromaticity"

Von Fuchs and Anderson showed that the degree of extraction of the oil is shown by the specific dispersion values on any given stock, the specific dispersion showing the relative degree of aromaticity, or the amount of aromatics remaining in the oil. When extraction is begun, the most highly aromatic constituents are removed first and most easily; the last few per cent of the less aromatic materials are removed with the greatest difficulty, and their presence affects least the properties of the finished oil. In fact, Mair and Willingham have decided that these low aromatic, or one-ring hydrocarbons may be valuable constituents in a lubricating oil, and the matter of their relative value may well be investigated further.

The "specific dispersion" value as employed by von Fuchs and Anderson is determined by them in a special apparatus which they have developed, which is made up of parts of the Abbe, Pulfrich and Dipping refractometers. As a light source, a hydrogen Geissler tube is used, although they stated that a mercury sunlight lamp also can be used. A microscopic eyepiece focuses this light on a Pulfrich capillary vessel, which is attached to the horizontal surface of an Abbe refracting prism, the capillary containing the sample of oil under study. An adjustable mirror directs the spectrum lines into the telescope of a Zeiss-Dipping refractometer, from which the Amici prism has been removed. The blue line of the spectrum is brought to the zero mark on the telescope scale, and the position

of the red line is noted. The difference on the scale is the value used in calculating, or reading from tables or curves the value from which the specific dispersion is obtained.

The formula $\frac{\triangle n}{d}$ used in calculating the specific dispersion is derived from the Gladstone-Dale equation:

The formula $\frac{\triangle n}{d}$ generally used for the specific dispersion is derived from the Gladstone-Dale or n equation for specific refraction as follows:

$$r = \frac{n - 1}{d}$$

$$r\beta - r\alpha = \frac{n\beta - 1}{d} - \frac{n\alpha - 1}{d}$$

$$= \frac{n\beta - n\alpha}{d} = \frac{\triangle n}{d}$$

where $r\beta$ and $r\alpha$ are the specific refraction values and $n\beta$ and $n\alpha$ are the refractive indices for the β and α lines of the hydrogen spectrum and d is the density at the temperature at which the refractive indices were determined. In order to obtain more convenient figures, the value of the specific dispersion is multiplied by 10^4.

From data obtained by these and other investigators, it appears that the specific dispersion is a function of the conjugated bonds, or aromatic rings in a given compound. Introduction of a double bond or of several conjugated bonds increases the specific dispersion stepwise, these authors stated. For paraffins, these values, (of specific dispersion) range from about 96 to 99, averaging 98.4.

For naphthenes, the values are increased only slightly if at all, the average value being 98.3, on 17 compounds, one of which is a six-ring condensed naphthene, decahydronaphthalene. This shows a close uniformity between paraffins and naphthenes. For benzene, simplest of the aromatics, the value is 189.3, or nearly twice that for the paraffinic and naphthenic compounds. Naphthalene and its homologs have dispersions about three times that for saturated molecules. For anthracene and phenathrene the dispersion is about four times the paraffin values. Pyrene, with four interlocked aromatic rings, shows a value of about 550, and so on.

Anthracene, for example, is more easily oxidized than paraffinic compounds, the authors point out, and will thus form more sludge on oxidation. It is therefore desirable to know the nature as well as the amount of aromatic compounds, the polynuclear aromatics being more undesirable than the simpler compounds.

The relationships between the specific dispersion values so determined, and other properties, such as Indiana oxidation, carbon residue, and viscosity index, are determined to be direct, and nearly straight-line relationships. Although the variations in oxidation susceptibility, and other properties of a finished oil will be varied by the treatment used subsequent to extraction, this method of determining aromaticity has been found invaluable in following the course of extraction treatment, the authors stated. Drop in specific dispersion is proportional to the increase in viscosity index, they found.

Mair and Willingham have reached the conclusion that the dispersion characteristics of lubricating oil fractions show that there is no evidence whatever that isoparaffins exist in lubricating oils. The best portion of the oils consist of naphthenes, or cycloparaffins, containing from one to three rings with the attached alkyl radicals as side chains. The more soluble portion, the extract, they believe, consists of naphthenes with more rings, unsaturated hydrocarbons, and some aromatics. Even paraffin waxes from petroleum fractions, several waxes showing a melting-point about 35 C. (95 F.) below the corresponding normal paraffins of the same molecular weight. These waxes have been supposed by many investigators to be paraffins of the normal type. They also show a deficiency of hydrogen from the formula $C_nH_{2n} + 2$. The solubility of one-ring aromatics is closer to that of naphthenes of five- and six-ring formation, and, if these one-ring compounds exist in the oil, they may be some of the best of the lubricating constituents, and may thus be discarded along with the less desirable 5- and 6-ring naphthenes which are extracted selectively.

Dr. F. W. Bergius, pioneer in the hydrogenation of coal and tars, whose work in this field began about 1910, was an honored guest at the meeting of the American Chemical Society this week, at Pittsburgh. Dr. Bergius is in attendance also at the World Power Conference at Washington, which is being held this week.

Dr. Bergius spoke briefly before the joint meeting of the petroleum and gas and fuel divisions Tuesday afternoon. He reviewed the progress that has been made in hydrogenation, which, after several years of preliminary research by Bergius and his associates, was taken up and developed on a larger scale by the Farbenindustrie interests of Germany. Later Standard Oil Co. of New Jersey acquired an interest in the process, applied it to heavy petroleum residues, and built a unit at Bayonne, N. J.

CRYSTALLIZED wax which filters best in plant operations is formed in clusters of crystals, Anderson and Talley found. In studying wax filtration, these investigators, using polarized light and a specially designed cold stage for microscopic study of crystals formed under varying conditions, found that it is necessary to preheat wax solutions to about 140 F. in order to promote the formation of these clusters for better filtration.

The form of crystals first precipitated has a strong influence on the nature of the entire crystallization, they stated. Washing clustered wax at minus 70 to minus 80 F. with pentane removed oil therefrom, but did not break up the clusters. Washing at minus 40 F. with the same penatane broke up the clusters, removing what the authors call a cementing material not affected at the lower temperature.

This cementing material is the binder forming these clusters, the authors stated, clusters which promote good filtration. This "cement" has a specific gravity of 0.954 (16.8 A. P. I.), refractive index of 1.53, and a viscosity S. U. V. of 154 seconds at 210 F., indicating, they stated, that it is a resin composed mostly of aro-

matic hydrocarbons. With too large a percentage of this material present, they found that wax crystallization was interfered with; with too little cement, the clusters were not formed, and filtration was also interfered with.

A large scale experimental hydrogenation plant has been in operation since March, 1935, by the Dept. of Scientific and Industrial Research of Great Britain, according to information presented by J. G. King and Angus Macfarlane of that department, for the purpose of determining the optimum conditions for this operation on British coals, and for determining also the relative reactivity of coal of different properties under hydrogenation conditions.

WORK in this plant has shown that the addition of a small amount of hydrogen to a given type of non-coking coal produces a coal with good coking qualities. The solution of the problem of hydrogenation of coal is in some measure dependent on the profitable disposal of the coke which is not hydrogenated, or which is produced in the low temperature carbonization of coal to make the tar which is hydrogenated, these technologists affirm.

In operating this large scale pilot unit at 200 atmospheres (3000 pounds) pressure, and 480 C. (896 F.), over a period of 28 days, nearly 3400 gallons of tar and 2200 gallons of recycle oil were treated, producing 1864 gallons of motor fuel and about 4000 gallons of recycle oil, they stated. It has been found that as temperatures are increased, the catalyst is deteriorated at a greater rate. Raising the pressure showed an improvement in the life and reactivity rate of the catalyst, but this advantage must be weighed against the additional cost of compression, and expense of operation under the higher pressures, these authors showed.

The characteristic reaction of olefins in the presence of olefinic hydrocarbons is the formation of carbon and hydrogen, Gustav Egloff and C. I. Parrish, Universal Oil Products Co., have found. In the presence of iron, cobalt, nickel, copper and their alloys, liquid products are formed from the reactions of olefins, they stated. These investigators suggest a mechanism of catalytic reaction in the presence of copper, for example, wherein ethylene, for instance, undergoes activated adsorption on the metal, homopolar bonds are formed between the carbon and hydrogen of the hydrocarbon. Chemical compounds formed by hydrocarbon and metal are observed to inhibit the formation of higher hydrocarbons, they said.

Dr. Jacques C. Morrell, associate director of research for Universal Oil Products Co. and well known petroleum technologist, was unanimously selected as chairman of the petroleum division of the American Chemical Society this week. He succeeds F. W. Hall, research director for The Texas Co., who has just completed two very successful terms as chairman of the division.

Dr. C. R. Wagner, chief chemist of Pure Oil Co., was re-elected secretary of the division, he having filled this important post now for several years.

Propose Bituminous Road Construction Study

By Telegraph

MANY GLACIER, Mont., Sept. 8.—The second annual Montana Bituminous Highway conference will open at Many Glacier Hotel here Tuesday with 400 highway engineers, scientists, oil technologists, professors and students of highway engineering from several universities and high department officials from 26 western and mid-western states registered.

D. A. McKinon, state highway engineer will open the conference and will be followed by Governor Elmer Holt, who will deliver the official address of welcome. Dr. Harry J. McGregor, chairman of the State Highway Commission will outline the purposes of the conference and will be followed by the first of the technical discussions to which the three-day conference will devote itself.

L. D. Conkling, professor of civil engineering, Montana State College will be lead-off man for the corps of highway experts. His address will be a review of analytical engineering methods and research applied to bituminous type construction. He is expected to emphasize the need for a comprehensive fact finding investigation of the characteristics of asphaltic material and the adoption of several methods showing the life service and cost data which will enable more thorough understanding of the possibilities of bituminous highway construction.

Specifically he will propose one year of field work consisting of intensive study of both good and bad examples of various grades of bituminous highways. Laboratory research will be co-ordinated with the field work.

Senator Burton K. Wheeler of Montana will address the conference at its afternoon session and will be followed by Professor F. C. Lang, professor of highway engineering, University of Minnesota, whose paper will be devoted to the fundamentals of successful bituminous practice.

Build Gasoline Plant

TULSA—A natural gasoline plant, to be owned jointly by Phillips Petroleum Co. and Continental Oil Co., is being constructed in the Edmond field, on the Ohio Oil Co.'s Dahl-1 lease. The plant is to be a 1-unit rock pressure absorption type, operating without compressors. The plant will handle approximately 50,000,000 of gas daily, and will process all gas available in the field.

Builds New Gasoline Plant

By Teletype

BARTLESVILLE, Sept. 9.—A new natural gasoline plant is being constructed in Ector County (West Texas) by the Empire companies, and probably will be in operation by October 1. The plant will have a capacity of approximately 20,000 gallons daily. A 4-inch gasoline line is being laid from the plant to a loading rack at Odessa, a distance of approximately 14 miles. Two gathering lines, each four miles long, also are being laid.

1937 Cars Are In Production; E. P. Lubes Offer Problems

By **JOHN W. THOMPSON**
N. P. N. Staff Writer

DETROIT, Sept. 9

MANY of the car makers are losing a noticeable amount of hair worrying about announcement dates of their 1937 models. The headaches aren't due to any failure to be ready by show time Nov. 11, but the aspirins are being taken because the presidential election stories will be filling the newspapers just at the time most 1937 models normally receive a goodly amount of newspaper publicity.

Most car manufacturers have no desire to compete with the elections for publicity space. As a result the new car announcements will come for the most part either before October 15, or on the opening day of the New York show.

It remained for two independent manufacturers to break the tape first in the race to bring out new models. Last week Studebaker dealers were given a first look at their new babies, the President and Dictator models, and today in Detroit, Packard banners at every large hotel are flapping their welcome to 4000 Packard dealers who make up the first of the annual dealer pilgrimages to the motor city.

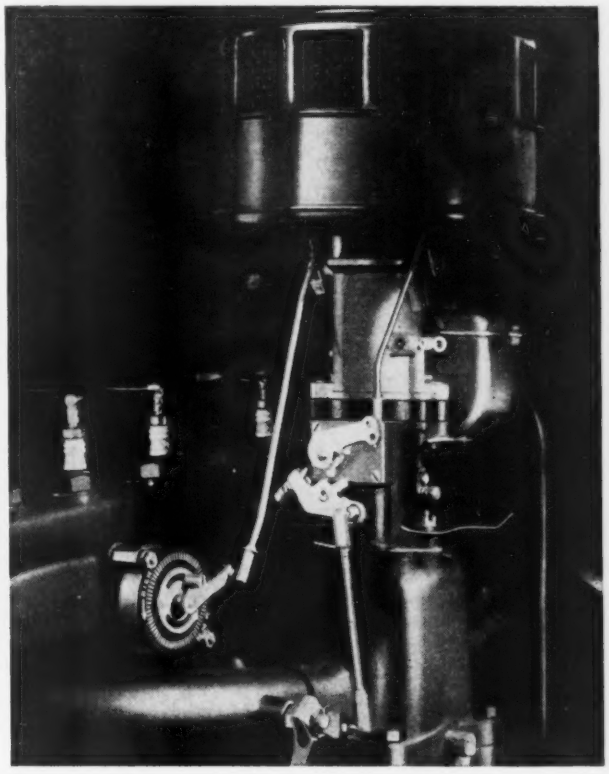
Oil men will find on the Studebaker some features that warrant their attention. For example the rear axles are now of the hypoid type, requiring an E. P. lubricant, which, according to recommendations, should be serviced only by Studebaker dealers. The company engineers report that this move is made simply because they feel that oil companies have not developed sufficient distribution for this type of lubricant.

Another Studebaker feature that will raise many eye brows is the new oil filter, which is standard equipment on 1937 models. This filter, packed tightly with cotton waste, makes it possible for the owner to limit his oil changes to twice a year, provided he changes the filter cartridge when the oil gauge stick indicates the oil is "turning black." Tests under normal conditions show that a filter cartridge will function for at least 5000 miles without replacement.

Studebakers for 1937 have a lift top on the hood, a la Zephyr and Cord. Reports indicate that other manufacturers will also come out with this type of hood design. As we gaze into the crystal ball we see Ford and Oldsmobile as most likely prospects for this type of hood design.

Packard did not disappoint the scribes who predicted a new baby in the Packard family as far back as its conception. The new Packard model, known as the Packard Six, with a base price of $795 and probably the only entirely new model any

The new twin lever type steering gear on the 1937 Studebaker is designed to facilitate handling of the cars



The new automatic choke on the 1937 Studebaker Dictator. Three adjustments are provided to compensate for variations in motor fuel

maker will introduce this fall, bears striking similarity to the "120" model, Packard's eight-cylinder bread and butter model. In fact, to the layman, the two models might be twins, and even the initiated might have to count the spark plugs or measure the wheelbase before being certain which is which. The Six has a 115-inch wheelbase.

ALL Packard models use the Saf - T - fleX independent front wheel suspension, similar to that used on the "120" last year. The Six has a maximum brake horsepower of 100, uses a cast iron cylinder head, and has a 6.3 to 1 compression ratio.

Dodge is reported to have thrown away every old die, and will offer an entirely new body, with more insulation, for 1937. The Dodge engine will be pushed farther forward again next year to make a better balance and more interior room. Oilite bearings will be used in the universals and in the clutch release yoke, according to reports. During 1936 Dodge shifted to a hypoid rear axle.

As Dodge goes, so goes Plymouth, so a hypoid rear end may very definitely be expected to grace Plymouth construction for 1937. Dodge will probably announce publicly about show time, as will all the other Chrysler units. All the Chrysler units, including Chrysler, DeSoto, Dodge and Plymouth, will have hypoid rear ends for 1937, except the Chrysler Imperial, which will use a spiral bevel type. Chrysler and DeSoto Airstream models will cling to the independent front wheel suspension, if we are to believe company engineers.

Reo, builder of automobiles since 1904, put to rest any speculation on what it would do in 1937. D. E. Bates, Reo president, announced this week that, s t a r t i n g immediately, Reo would concentrate exclusively on the manufacture of commercial vehicles. This company has been active in the truck field for many years, and pioneered such innovations as pneumatic truck tires. Thus, one of the charter members of the automotive industry withdraws from the passenger car field.

Ford still has a corner of his shop set aside to produce a few models of the 1936 type daily, although 'tis said 1937 production wheels are all set and waiting for the bell. Ford will again phooey on the rest of the boys at the New York show and will parade his goods at the Astor Hotel starting Nov. 11, as last year.

As for what Ford will do, you have your choice of rumors. Here are a few, listed in order of their importance. The new model will be very Zephyr-ish in body design; it will have an all-steel top; it will have mechanical booster brakes. Ford's advertising agency, according to the dope spillers, has been instructed to prepare copy on the small V-8 job. There seems to be no denial among Ford's suppliers that a small V-8 is in the wind, but a new angle which muddies up the best laid plans of the "downtown engineers" is to the effect that Ford made up 12,000 small V-8 engines to ship abroad for his bantam car over there.

Buick engineers have the lubrication specifications of their new models all set, with the exception of the rear end, which this year is to be a hypoid on the two smallest models. Buick is experiencing some difficulty in agreeing on the best method of presenting rear axle recommendations to owners "in view of the fact that there are so many different types of E.P.'s on the market." Few changes are expected in other Buick lubrication requirements.

Buick engineers have developed a set of hypoid gears that are perfectly safe to be lubricated with the conventional lubricant, provided they have experienced a run-in period using the mild E.P. lubricant supplied at the factory. This design may be an answer to the confused situation on the lubrication of hypoids today.

Although the two large Buick models have a spiral bevel type axle, a mild E.P. lubricant will be recommended for them in the interests of uniformity.

Reports have it that Buick will be the first General Motors car to display itself to the breathless public. The date will be before October 15.

Pontiac is expected to let the Landon-Roosevelt controversy die down before attempting to get newspaper publicity on its 1937 jobs. The Pontiac engine will have a larger bore and stroke, will be more powerful, and with all that, will claim to offer 3 or 4 more miles per gallon. The reason behind the improvement is a new type of intake manifold, details of which are in a state of utmost secrecy pending patent developments.

The Pontiac fuel pump is being re-located so that it is away from the bad influence of the exhaust manifold, thus eliminating any possibility of vapor lock.

Chevrolet, the sales leader for 1936, is reported to have thrown all of its 1936 equipment overboard and will present the most radical changes of any of the Big Three. The Chevrolet plants are going through an extensive retooling program, and it looks as though Ford and Chevrolet in particular are girding themselves for the battle of the century. Hypoid rear axles and L-head engines are quite definitely scheduled for the 1937 Chevrolets.

WE OVERHEARD on good authority that Chevrolet will recommend that their hypoid axles be serviced by Chevrolet dealers, at least for the first few thousand miles.

From practically every quarter the E.P. lubricant situation is one of great concern. In general the automotive engineers are quite squeamish about trusting the servicing of their hypoid axles to the service station attendant. Oil companies have much at stake in this controversy. For with some of the car makers specifying that their hypoid axles be serviced by their own dealers, it means that the owner is not going to a service station to have part of his work done, and to the car dealer for the remainder. If he must go to the car dealer for hypoid lubrication it is quite likely he will tell the car dealer to service the whole job.

Today, Oldsmobile engineers were closeted with General Motors research heads in an effort to simplify the increasingly complicated hypoid gear lubrication specification into a

(*Continued on page* 50)

Fair Trade Law and Iowa Plan On Ohio Jobber Program

CINCINNATI, O., Sept. 9 — THE so-called Iowa Plan of marketing petroleum products and the Robinson-Patman Anti-Price Discrimination Act will be the principal subjects of discussion at the 1936 Fall Conference of the Ohio Petroleum Marketers Association which will be held at the Netherland Plaza Hotel in Cincinnati on Wednesday, Sept. 16.

E. L. Barringer of Chicago, on the editorial staff of the NATIONAL PETROLEUM NEWS, will tell the story of the Iowa Plan, and will respond to questions of marketers from the floor. The Robinson-Patman Act will be discussed by Hubert B. Fuller of Cleveland, general counsel of the Association.

Other speakers will include Carl Barker of St. Louis, manager of public relations for the Shell Petroleum Corp.; Sam Bohlen, a jobber of Orrville, O., and John L. Marsh of Youngstown, secretary of the Petroleum Industry Committee of Ohio.

E. V. Weber of Cincinnati, president of the association, who has been recovering from a recent surgical operation, will preside over the conference and also will address the meeting, speaking on "The Outlook for the Independent Marketer." Sessions will be held on Wednesday morning and afternoon. Because of the widespread interest in the Iowa Plan and the Robinson-Patman Act, it is expected that more than 500 oil men will attend the conference.

On Wednesday evening there will be a dinner-party at the Netherland Plaza, when the entire program will be devoted to entertainment to be provided by the Cincinnati Oil Club, hosts to the conference.

The annual golf tournament of the Association will be conducted on Thursday, Sept. 17, at the Western Hills Country Club. Some 100 contestants are expected to compete for a fine array of prizes, which probably will number in excess of 50. The tourney will be followed by luncheon and entertainment.

Both the conference and tournament are open to all oil men and representatives of allied industries.

The committee chairmen, working under the general direction of L. B. Rattermann of Cincinnati, are: Attendance, C. A. Sennett of Portsmouth; program, John J. Klay of Lima; reception and entertainment, George Siemer of Cincinnati; golf, A. B. Caldwell of Cincinnati.

"Residue Oils" Clarified In Ohio Tax Ruling

COLUMBUS, O., Sept. 8. — Troublesome problems in connection with the application of the liquid fuel tax in Ohio have hinged upon the definition of "petroleum residue oils", until recently, when the Tax Commission of Ohio announced a new definition to become effective Oct. 1, 1936.

In its official order the commission states that the term shall now mean and include "any product which either has an end point higher than 626° F. (A. S. T. M., D 86-35) or has an A. P. I. gravity of less than 35 degrees, except when such product is used for the purpose of generating power for the propulsion of motor vehicles as such motor vehicles are defined in Section 5526 of the General Code of Ohio other than those operated upon tracks specifically provided therefor."

The order further states that, effective Oct. 1, 1936, any product (except gasoline, kerosine, and all other like substances) taxable under the definition of "liquid fuel" may be sold exempt from the tax where the seller secures from the consumer appropriate exemption certificates showing that the product is to be used for any of the following purposes:

1. As a fuel for domestic, commercial or industrial boilers or furnaces.

2. In operating stationary diesel engines.

3. For the manufacture of gas.

4. When used for cleaning or other solvent purposes.

5. When used as a raw material or process material in the manufacture of any and all products not of themselves usable in the generation of heat, light or power.

Under this order, reports the Ohio Petroleum Marketers Association, Inc., gasoline, kerosine, and like substances, such as naphthas, etc., will be taxed and reported to the Tax Commission in the same manner as in the past.

Products below the kerosine range, such as fuel oils, will be taxed as at the present time, but beginning Oct. 1, 1936, exemption certificates must be secured by the distributor when selling a fuel oil coming within the specifications, for any of the five tax-exempt purposes mentioned above.

Atlantic Refining Adopts "Iowa" Retail Plan

PHILADELPHIA, Sept. 4.— The Atlantic Refining Co. today announced it had discontinued posting service station gasoline prices at a number of cities in Pennsylvania and Delaware, as all stations at these points had been leased to agents and were no longer being operated directly by the company.

So far, the only leading city where Atlantic has officially withdrawn from posting a service station price is Dover, Del. Company officials said that others would be dropped as leasing arrangements were made. The other station postings eliminated were in small cities in these two states.

Atlantic's move means the extension of the so-called "Iowa plan" of retail operation to most of the territory east of the Missouri river. Standard of Ohio remains the only one of the Standard group which has not announced the intention of giving it a trial.

An Open Protest to Cummings

The following open letter to Attorney General Homer Cummings was written by Louis Kimmel, head of an association of gasoline retailers in Brooklyn and Queens, N. Y. In it he charges that the present anti-trust campaign of the government will injure independent retailers—Editor.

THE Gasoline Merchants of Brooklyn & Queens, Inc., through their Business Director, hereby goes on record to criticize the Federal Investigation and more so the indictments.

The distress gasoline that has been thrown into the open market for years has brought a chaotic condition to the retailer. At no time was it ever proved to be of benefit for the gasoline station operator throughout the country. The sidetrack operator with his ridiculous purchases and low reselling has given the dealer in various areas more trouble than any other marketer in gasoline, until at one time, known to the Government, a pool was formed where all surplus gasoline should be purchased. The Honorable Harold L. Ickes, administrator at that time of the oil industry, approved of such a pool. For no reason at all, a Federal Investigation popped up somewhere in the Middle West, and indictments of various companies and individuals followed.

We believe an injustice was performed by the Government through Attorney General Cummings. We also believe that unless they stop the investigation and indictments, the retailer throughout the country will pay a tremendous penalty.

Government control during the NRA was announced by the Federal-Attorney in Washington to be legal. It was of benefit at that time to everyone concerned in the oil industry. Even though the United States Supreme Court has ruled out the NRA, the Government still has a Conservation Division of the Department of the Interior, which controls part of the Oil Industry. The Conservation Division is trying to stabilize part of the industry. Under the circumstances, I feel that justice is going to prevail. Why Federal Investigations? Why Federal Indictments? Who is going to suffer if not the gasoline dealer throughout the country.

Unless we will have stabilization in our industry, the gasoline retailer throughout the country will suffer tremendously as he has been in the past years. When will there be a time that the Government will look into the wars on gasoline, to the dealers problems, to a sound business, to a profitable market?

During the NRA, the retailer was ignored. Today, the retailer throughout the country can hardly hold his own. The retailer sells sometimes in some cases below cost, and the investigation and the indictments make it impossible for the supplier to come to our aid.

I honestly believe that this open letter should be considered by Attorney-General Cummings, and then consider whether he should go ahead with his Federal Grand Jury on the Oil Investigation or not.

New York State has a milk controlling board. If a grocer should sell a quart of milk 1 cent below the fixed price, he is due to a penalty of $25 fine or jail or both. This is legal because it is set up by the State of New York.

Gasoline is as much of a necessity for the progress of our country as milk is in New York State. Thousands and thousands of families connected with the filling stations throughout the country will suffer if indictments go on. We hope that justice is going to be measured and measured right by our Government.

Louis Kimmel
Business Director of Gasoline Merchants of Brooklyn & Queens, Inc.

Publisher Salutes Conspiracy Defendants

From "The Gasoline Retailer"
September 5, 1936

We Salute These Patriots of a Great Industry

Below are the names of those oil leaders who, at the request of the Department of Interior, worked out with Secretary Ickes a stabilization program for the oil industry, which saved the independent oil producer and refiner from disaster, freed from price wars thousands of independent retailers and helped to bring back reasonable prosperity to the rank and file of the gasoline business. Now that they have been indicted, finger printed and otherwise treated as convicted criminals—at the behest of a political-minded Attorney General of the same administration, whose Secretary of the Interior urged them to co-operate with the government he represented and other members of the oil industry in a movement of stabilization—all loyal oil men, whether they are station owners, station attendants, jobbers or distributors, will salute them for their sacrifice in a great cause. As the representative of thousands of independent dealers, who benefited by their foresight and patriotism, we truly thank them for leadership and courage in a time of need.

Charles E. Arnott
H. T. Ashton
R. O. Audrain
Clyde M. Boggs
Arthur V. Bourque
H. L. Brandli
John A. Brown
Edward J. Bullock
O. H. Carlisle
J. W. Carnes
Dewey K. Chamberlain
Frank R. Coates
R. D. Cottingham
L. T. Cramer
Henry M. Dawes
H. W. Dodge
Keith Fanshier
Thomas Fitzgerald
J. F. Drake
Jacob France
Alexander Fraser
Harry Frueauff
D. W. Harris
William V. Hartman
A. M. Hughes
R. R. Irwin
Allan Jackson
Charles L. Jones
Edward Karstedt
Harry J. Kennedy
H. E. Koopman
P. E. Lakin
A. G. Maguire
Barnard L. Majewski
Robert W. McDowell
R. H. McElroy, Jr.
H. C. Meyer
Dan Moran
James Nagle
I. A. O'Shaughnessy
Frank Phillips
Warren C. Platt
Edward B. Reeser
Bryan S. Reid
Noel Robinson
W. B. S. Rogers
P. C. Scullin
Edward G. Seubert
Edward L. Shea
E. W. Sinclair
W. G. Skelly
Ira A. Smith
O. J. Tuttle
R. G. A. Van der Woude
J. W. Warner
C. B. Watson
John A. Welch

Such a betrayal of trust can not be condoned, without protest, in a freedom loving nation. If government is to be respected it must be fair to all and not confuse politics with the administration of justice.

H. A. Inness Brown
Publisher of Gasoline Retailer

* * *

From the San Francisco "Chronicle" Aug. 5, 1936

Code The New Deal Taught Oil Men Now Held Crime

Nothing illustrates better the confusion and cross-purposes of the Washington Administration than the action of the Attorney General in obtaining indictments against a large group of oil firms, individuals and publishers

of trade papers, on counts of violating the Sherman Anti-Trust Act.

It is a complete reversal of the New Deal philosophy as exemplified by NRA. It amounts to a move to put industrial leaders in jail for doing what the Government urged them to do in the conservation of a natural resource.

The whole theory and purpose of the Oil Conservation Act and other Administration moves has been to co-ordinate the oil industry and put an end to destructive competition, with the resultant waste and frain on an irreplaceable natural resource.

Standardization of the price of gasoline is recognized as the key to the stabilization of the oil industry. It was the basis of all the oil conservation moves. Repeated experience has shown that price wars are destructive to the industry from the filling pump to the derrick. If prices are excessive that is one thing. But that is not the crux of the indictments. The point to the indictments is that prices are standardized. In other words, that chiseling, destructive competition, the very evils that the New Deal has so loudly condemned, are now acclaimed as economic virtues to be brought about by threat of fine and imprisonment.

There is more than a suspicion that these indictments have a political inspiration. For "three long years" the Administration let the Sherman Act sleep. In fact, a moratorium was declared on it. The New Deal agencies gave a dispensation to ignore it.

Suddenly the Democratic platform blossomed out with a ringing denunciation against monopoly and price fixing. It was passed to placate Mr. Borah—and didn't even do that. Now follow the oil charges.

And it is significant that with the Government's choice of venue, Mr. Cummings picked the District Court in Wisconsin, the home of the La Follettes, who have also been demanding that the country progress backward to the 1890's in its industrial development. Whether by design or accident, the suit was begun in favorable political territory.

* * *

From the Dallas (Texas) "Dispatch" Aug. 14, 1936

The Oil Trust

So long ago that many people have forgotten it and most folks have forgotten the details, Gov. Allred, who was attorney general, brought suit to collect $17,500,000 in penalties from major oil companies under the state's anti-trust laws. The suit was thrown out of district court because it conflicted with NRA, the judge holding that NRA suspended state regulation. But NRA has been kicked out by the U. S. Supreme Court. The Texas case was appealed and the lower court upheld, with the additional finding that the Texas anti-trust law was unconstitutional. The case is now up to the U. S. Supreme Court. But meantime the federal government, under the national anti-trust law, has brought suit against the major oil companies. It remains to be seen whether federal statutes are more effective than state statutes and state prosecution on the charges of restraint of trade.

* * *

From the Sheridan (Wyo.) Press Aug. 12, 1936

Try Something Else

In connection with the current prevailing theory of government by trying something and if that does not work, then try something else, we note the recent action of the United States Department of Justice in obtaining indictments against a number of corporations and individuals in the oil business and publishers of oil trade papers on charges of violating the Sherman Anti-Trust Act.

We have no knowledge of the merits of the prosecution and do not attempt any opinion as to that. We are struck however with the apparent complete reversal of administration policy. Apparently what the oil people are now being prosecuted for doing is just what the NRA urged and attempted to compel them to do for the conservation of natural resurces, until the Supreme Court stepped in and announced the obvious conclusion that the NIRA was unconstitutional.

The whole avowed theory and purpose of the Oil Conservation Act and the NRA oil code was to co-ordinate the oil industry and stop destructive competition resulting in waste of an irreplaceable national resource. Standardization of the price of gasoline was considered to be the key to the stabilization of the oil industry and was the basis of all the oil conservation efforts. If gasoline prices are excessive that is serious indeed of course. But that does not seem to be the essential ground of the recent indictments. The real cause of complaint appears to be that prices are standardized or, in other words, that chiseling and destructive competition and waste have been eliminated. Those are the very evils which only very recently the administration was trying to stop

For three years the Sherman Anti-Trust Act has been ignored by this administration. The entire NRA theory of industrial codes was opposed to the basic purpose of the Sherman Act. But both the Democratic and Republican platforms, and also very particularly Governor Landon, have declared against monopoly and for the restoration of competition. So the Sherman Act is removed from the pigeon-hole, dusted off and put into action. Perhaps that is all to the good. Certainly if it should result in lower prices for gasoline it would be welcome. But if it has any merit, it is because of its being absolutely contrary to the NRA theory, which has been officially described as the heart of the New Deal.

* * *

From the San Jose, Calif. "Mercury Herald" Aug. 7, 1936

Hits Oil Industry

The government has filed a suit in Wisconsin against several oil industries, charging violation of the anti-trust act. A similar suit, to be filed in California, is believed to be on the way, for it is known an investigation has been going on for several months.

Skeptical politicians are wondering whether Borah's charge that the New Deal has fostered monopolies has anything to do with filing suits in the middle of the campaign.

THE editorials which NATIONAL PETROLEUM NEWS is reprinting in regard to the alleged oil conspiracy indictment, have not been specially selected by us for that purpose. We are printing all editorials on the subject that we have received regardless of their point of view as we want to give the industry a fair idea of what the newspaper public thinks. Barring any unexpected limitations of space we will continue that policy and we will appreciate the co-operation of our readers in sending in any editorials that we may have missed. Also we will be glad to print comment from our readers—*Editor.*

Appeal Fuel Oil Ruling

NEW YORK, Sept. 4.—The Sinclair Refining Co. has filed an appeal with the Court of Customs Appeals for a hearing on a decision of the Customs Court which held that crude oil imported in bulk and manifested is subject to tax under the Revenue Act of 1932.

The court held that part of a cargo of oil which was transferred from the ship's cargo tanks to its fuel tanks while in port, was dutiable in accordance with its status when it arrived at the port.

10 Minute Talks to be Feature Of Oil Safety Meetings

CHICAGO, Sept. 5

A SERIES of ten minute talks by oil industry officials near the opening of each morning's session will be a feature of the petroleum section meetings at the National Safety Congress and Exposition of the National Safety Council, Oct. 5 to 9, at Atlantic City.

As at previous council conventions various sections will meet to consider safety problems for that industry or group. Oil industry safety engineers will conduct their programs on the mornings of Oct. 6 and 7 in the Japanese room on the lobby floor of the Ambassador hotel.

Following is the petroleum section program:

Tuesday morning, Oct. 6

Report of General Chairman R. B. Roaper.

"Human Conservation in Industry," Frank W. Lovejoy, Socony-Vacuum Oil Co., New York.

"Accident Investigations," ten-minute talks by A. W. Breeland, supervisor of safety, Lone Star Gas Co., Dallas; Glen Byers, assistant personnel manager and safety director, Shell Petroleum Corp., St. Louis; Elmo D. Murphey, safety engineer, Mid-Continent Petroleum Corp., Tulsa; and W. S. Wilcox, industrial relations manager, Socony-Vacuum Oil Co., Philadelphia division.

General discussion.

"What the Community Doctor Should Know of Industrial Surgery," Dr. V. C. Baird, Humble Oil & Refining Co., Houston.

Discussion.

Wednesday morning, Oct. 7

"Some Interesting Safety Methods," ten-minute talks by H. W. Boggess, superintendent of safety, Sinclair Prairie Oil Co., Tulsa; George Lexander, safety supervisor, Standard Oil Co. of New York, Boston division; and George F. Prussing, safety engineer, Union Oil Co. of Calif., Los Angeles.

Discussion.

"Some Problems of Respiratory Protection and Their Solution," C. W. Smith, director of safety department, Standard Oil Co. of Indiana, Chicago.

Discussion.

Oil industry safety officials also may find subjects of interest in the 30 sectional meetings and features are planned for the general interest of all attendants. These include the president's reception and dance, the congress fun fest, and an informal "surprise" banquet.

Officers of the petroleum section of the Council are:

General chairman, R. B. Roaper, Humble Oil & Refining Co., Houston.

Vice-chairman, A. W. Breeland, Lone Star Gas Co., Dallas.

Atlantic division chairman, Archer Ashton, Socony-Vacuum Oil Co., Paulsboro, N. J.

Great Lakes division chairman, Glenn Byers, Shell Petroleum Corp., St. Louis.

Mid-Continent division chairman, R. S. Huffman, Oklahoma Natural Gas Co., Tulsa.

Rocky Mountain division chairman, A. T. Eckwall, Stanolind Oil & Gas Co., Midwest, Wyo.

Gulf division chairman, J. L. Manes, Sun Oil Co., Dallas.

Pacific division chairman, R. B. Hecox, Standard Oil Co. of Calif., Taft, Calif.

Secretary, H. N. Blakeslee, American Petroleum Institute, New York.

—*International News Photo*

Campsa and Georgia Oil Co. bulk plants at Malaga, Spain, recently were fired by bombs from rebel airplanes. The fire consumed 3,000,000 gallons of gasoline. This photo was made from the deck of the British Destroyer Wolsey

Refiners Assoc. Moves

SHREVEPORT, La. — The Arkansas - Louisiana - Texas division of the Western Petroleum Refiners Association moved its offices Sept. 1 from the Slattery Bldg., Shreveport, to 927 Giddens-Lane Bldg., in the same city according to L. C. Grosjean, secretary.

Motor Fuel Produced from Coal

By 3 Processes in Germany

By OBERGHAUPTMANN SCHLATTMANN *and* DR. -ING. E.h.H. KOPPENGERG[1]

Presented before Third World Power Conference, Washington, D. C., Sept. 7-12.

IN RECENT years science and technology in Germany have attacked with special assiduity the problem of producing liquid motor fuels from solid fuels of domestic origin. That is a development which finds its parallel in the endeavors to be noticed in industrial countries all over the world which aim to increase the consumption of liquid motor fuels, due to the growth of motorization, by developing domestic resources for the benefit of national industries. The method of refining at home crude oils of foreign origin and of converting them into light fuels, which is often adopted, owes its inception to the same endeavors.

The temporarily enhanced utilization of coal for the production of motor fuel in Germany and the fact that it is temporarily preferred to foreign crude oil does not exclude that other method. The reason for the present development is to be found in the national economic condition which compels Germany, like most other countries, to restrict its export of foreign currency to a minimum. Many of the plants for the recovery of motor fuel described in this report which have been erected in Germany on the basis of coal can be converted to the use of crude oil. Although that conversion is not a subject of discussion at the present moment, still such a turn is not unlikely for reasons connected with the economical production of motor fuels when world economic conditions shall have changed.

The development of that branch of industry which deals with the conversion of coal into liquid fuels has led to several important results in Germany, the possibilities of utilization of which are not confined to that country as a source of the raw materials. The problems which have already been solved in Germany on large-scale operation may be said to point the way for all those countries whose poverty in respect of natural oil resources urges the adoption of similar measures.

That applies all the more forcibly, since the problem has been attacked in Germany from different angles and a number of solutions have been found which place us in a position to convert practically any type of solid fuel, irrespective of origin, composition, and size of the pieces into valuable liquid fuels. Several examples of the conversion of solid fuels into liquid fuels will be described in the following lines, dealing with the fundamental technical principles which have led to the erection of large plants in Germany for the production of motor fuel, the smallest of which has an output of about 30,000 short tons of fuel a year, and the largest of over 300,000 short tons a year.

The processes which have been carried out on an industrial scale in Germany follow two fundamentally different methods for the production of liquid fuels from coal. Each of them permits of a considerable latitude of operation of which only those variations have been adopted on a large scale in Germany which best meet the local conditions according to the present state of the art. If other conditions should prevail, the processes can be adapted accordingly to a very considerable extent. Our internal combustion engines require for their operation the presence of certain definite groups of hydrocarbons in which oxygen and sulfur, which, besides hydrogen, are the most common companions of hydrocarbons in organic compounds, should be present only as impurities.

Some of the processes described make use of the fact that the chemical composition of coal is related to that of the fuels which it is desired to obtain.

The accompanying table shows that coal and its distillation products mainly differ from gasoline and Diesel oil in that they are poorer in hydrogen than the latter and contain too much oxygen and sulfur. The production of motor fuel by distillation, cracking, extraction, and hydrogenation calls for the enrichment of coal with hydrogen until the required carbon-hydrogen ratio has been reached, and the removal of the undesirable impurities, oxygen and sulfur.

Coal can be split up even by

TABLE 1

Ultimate Analysis of Gasoline, Coal, and Intermediate Products

	Gasoline Per Cent	Diesel oil Per Cent	Bituminous coal Per Cent	Brown coal Per Cent	Brown coal tar Per Cent
C	85.5	86.8	83.1	71.2	83.5
H	14.5	13.0	5.4	5.3	10.5
O	.....	.....	9.4	16.2	3.7
S	.1	.2	2.1	7.3	2.3

[1] Assisting in the preparation of this paper were Dr. L. Krauch, Dr.-Ing.E.h. O. Krawehl, Prof. Dr. Martin, Dr.-Ing.E.h. A. Pott, Dr.-Ing.E.h. Thau, Dipl.-Ing. Vorbrodt, Dipl.-Ing. Wenzel.

heating to 500° C. into two fractions, one of which bears a resemblance to motor fuel and is rich in hydrogen, while the residual part (coke or semicoke), contains but little hydrogen. The first part contains a considerable amount of gasoline (about 8 per cent), but the ratio between that quantity and the other products of the process varies to such an extent that that method of producing motor fuel can only be carried out when there is a ready market for the other products of the process.

A MORE favorable proportion between the quantity of motor fuel and the other products present is arrived at by cracking the liquid products having a high boiling point, which are produced by distillation. The large molecule of heavy oil which is poor in hydrogen is split up into molecules of smaller size by the action of heat, those which are rich in hydrogen representing the motor fuel desired, while the others, which are poor in hydrogen, form a residue in the form of pitch as a byproduct. The formation of that residual product can be practically entirely prevented by the addition of hydrogen to the fractions at the moment when the molecules of coal or oil are split up. That is the process of high-pressure hydrogenation.

The other process for the production of motor fuels from coal carried out in Germany makes no attempt to utilize the characteristic of the chemical composition of coal as a highly molecular hydrocarbon, and builds up the motor fuel molecule out of the simplest gaseous constituents of carbon and hydrogen. For that purpose, the coal is completely gasified and the mixture of gases is used for the formation of hydrocarbons over a catalyst. Each of these processes has its special features, as well as its advantages and drawbacks, in regard to certain conditions.

The German initial products for the recovery of liquid motor fuels differ greatly from one another, so that it can be accurately stated that most of the raw materials in the world are included within these limits. The coals that are utilized for the production of gasoline in Germany are of the character shown in Table 2.

The tabulated analyses belong to types of coal that have been taken at random from among the larger number of types processed in Germany. But the tabulation is not intended to give any information about the behavior of other types of coal of fundamentally different composition when subjected to the processes that have been developed in Germany for the production of liquid fuels. For instance, types of coal with a much higher ash content can also be utilized for certain purposes, and others which contain practically no bitumen can also be used to advantage. The processes which are applied in Germany for the production of motor fuels from coal will be described in the following order.

(1) High-pressure hydrogenation of coal and the products recovered from it by low-temperature carbonization and extraction.

(2) Synthesis.

(3) Low-temperature carbonization, distillation, cracking, and extraction.

The high-pressure hydrogenation process is the result of a development extending over more than 20 years. The process has been in commercial operation during the last 10 years. Both low-temperature tars as well as bituminous coal and brown coal or lignite can be directly converted into motor fuels by the high-pressure hydrogenation process. The accompanying diagram (Fig. 1) illustrates the characteristic features of the high-pressure hydrogenation of all three raw materials.

The coal is first broken up and then mixed with heavy oil and finely ground in a drop stamp mill. Part of the catalyst, which has been pasted up well with oil, is here added to the coal slurry and the rest is added later on. The coal slurry, or paste, which contains from 50 to 60 per cent solid matter, is drawn through the high-pressure slurry pumps and pressed together with hydrogen at a pressure of 300 atmospheres through a heater system consisting of a heat exchanger and a gas-heated preheater.

The coal slurry and the hydrogen are heated to about 410° C. and then arrive at the reaction retorts where the temperature rapidly rises, owing to the heat of reaction, to about 460° C. At that temperature the coal is broken down under the influence of the admixed catalyst and of the highly compressed hydrogen, according to

TABLE 2

Quality of German coals used for the production of motor fuels

Type of Coal	Bituminous coal	High-temperature coke	Crude brown coal	Brown coal briquettes	
				a	b
Ultimate analysis:	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
C	74.6	87.0	27.6	52.8	53.8
H	4.8	.5	1.9	4.7	4.2
O	8.4		6.5	15.9	
N	1.4	1.3	.2	.3	21.8
S (combined)	.9		.6		
S (volatile)	.9	1.2	2.2	1.9	.8
Ash	3.6	9.5	7.1	9.4	4.9
Water	5.4	.5	53.9	15.0	14.5
	100.0	100.0	100.0	100.0	100.0
Low-temperature analysis: Tar	11.5–14	.....	5.5	14	8.8
Ash analysis:					
SiO_2	36.6	.....	26.8	15	6.8
Fe_2O_3	16.8	.....	1.0	11	27.6
Al_2O_3	31.6	.....	5.0	12	9.6
$CaO+MgO$	7.1	.....	35.8	30	29.6
K_2O+Na_2O	2.8	.....	.8	.....	4.6
SO_3	5.1	.....	30.6	32	21.8
Heating value:	*Kcal*		*Kcal*	*Kcal*	*Kcal*
Lower	7,100	.....	2,480	4,700	4,790
Upper	7,270	.....	2,620	5,000	5,100

Size of pieces: mm, any size 40-100; any size 35x35x35; 42x42x59.

the choice of the throughput, to form middle oil and gasoline together with small quanties of gaseous hydrocarbons. The heat, which is further developed in the course of the reaction, is carried off so as to prevent the temperature from rising above 460° C., by the introduction into the retort at suitable points of cold oil, coal slurry, or gas.

The products of the reaction after its completion reach a hot separator in which practically the same temperature prevails as in the reaction retorts. The heavy oils, which have remained liquid and contain ash and residual coal, are there separated from the gases and light oils. The latter leave in vapor form, are cooled in the heat exchanger and the condenser, and separated in a stripper from hydrogen and the gaseous hydrocarbons present. The oil obtained in that way is split up in the stripper distillation into heavy oil, middle oil, and gasoline.

The heavy oil is used for rubbing up with fresh coal, while the middle oil and the gasoline represent the oil produced and are used separately or subjected to further treatment in the gasoline retort. The hydrogen stripped off is passed through a pressure oil scrubber to free it from hydrocarbons that have been formed and is reintroduced into the reaction cycle after admixture of fresh hydrogen. The residue with its contents of solid materials, is withdrawn in a liquid condition from the hot separator and is diluted with part of the heavy oil mentioned as a product of the stripper distillation, and then centrifuged.

The oil still contained in the residue after centrifuging is separated in a low-temperature retort by heating it by the addition of steam. The heavy oil regained by low-temperature carbonization, centrifuging, and stripper distillation serves for the rubbing up with fresh coal.

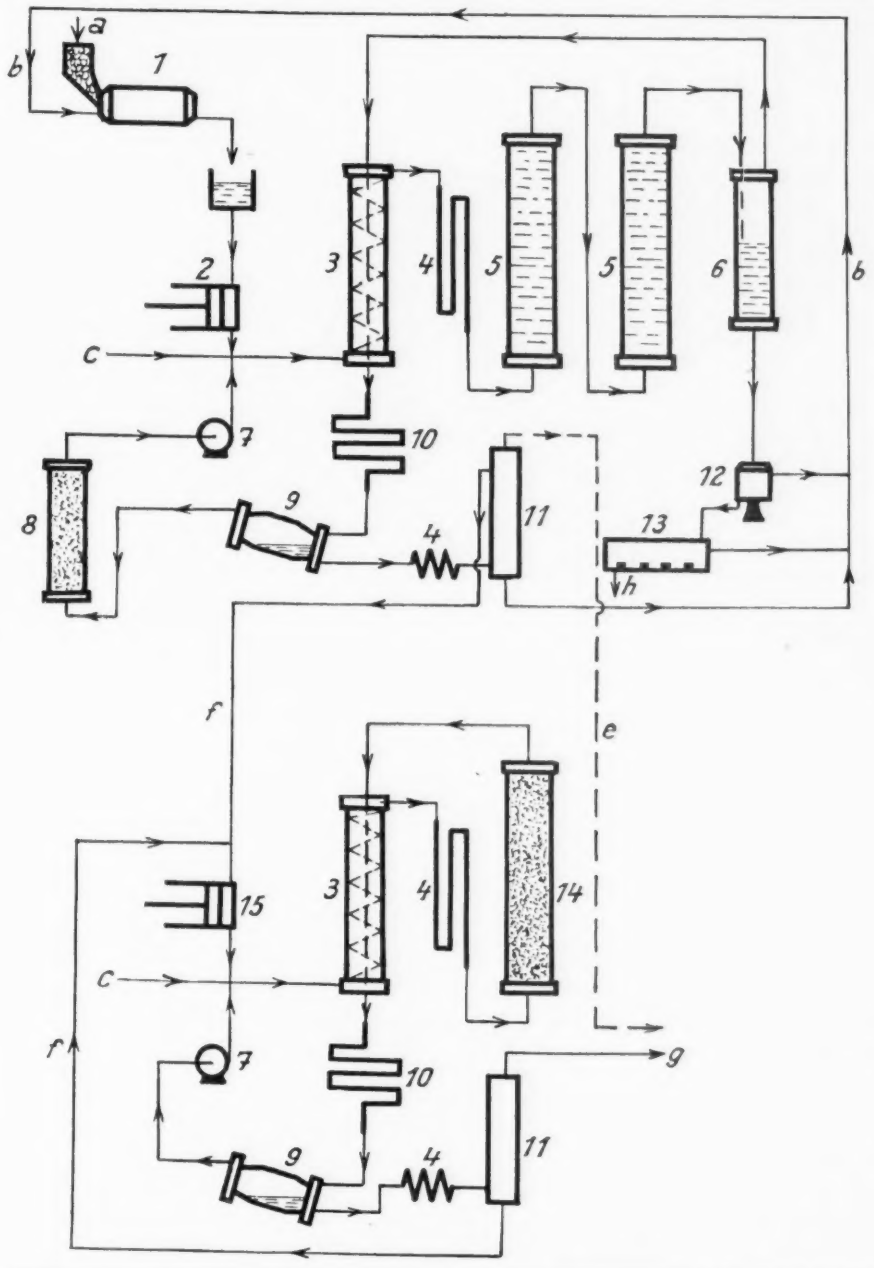


Figure 1.—Diagram of a high-pressure hydrogenation plant

Plant units.—1. Coal mill, 2. slurry pump, 3. heat exchanger, 4. heater, 5. coal retort, 6. separator, 7. gas-circulating pump, 8. gas purification, 9. stripper, 10. condenser, 11. distillation, 12. centrifuge, 13. low-temperature retort, 14. light oil retort, 15. oil-injection pump

Flow of materials.—a. Coal, b. oil for admixture with coal, c. fresh hydrogen, e. light coal oil, f. middle oil, g. finished gasoline, h. ash

THE middle oil produced by the hydrogenation of coal is conducted over a stationary catalyst in the second stage of the process in the gasoline retort. The gasoline contained in the coal retort can be refined by itself in the usual way, or it can be purified together with the middle oil in the gasoline retort by pressure hydrogenation. The middle oil is introduced into the light oil retort, which is filled with lumps of the catalyst, by means of a high-pressure injection pump via a heat exchanger and preheater. The conversion into gasoline takes place at a pressure of about 300 atmospheres and a temperature of from 400° to 520° C. The product obtained is cooled in the heat exchanger and the condenser, and separated from hydrogen in a stripper. The hydrogen is returned into the cycle. The product is split up by distillation into gasoline and middle oil, the latter of which is reintroduced into the cycle and converted into gasoline. The gasoline is scrubbed with lye and is then ready for sale as motorcar gasoline. Besides gasoline, gaseous hydrocarbons are also formed which contain propane and butane; these can easily be recovered from the waste gases and are used as liquid gas.

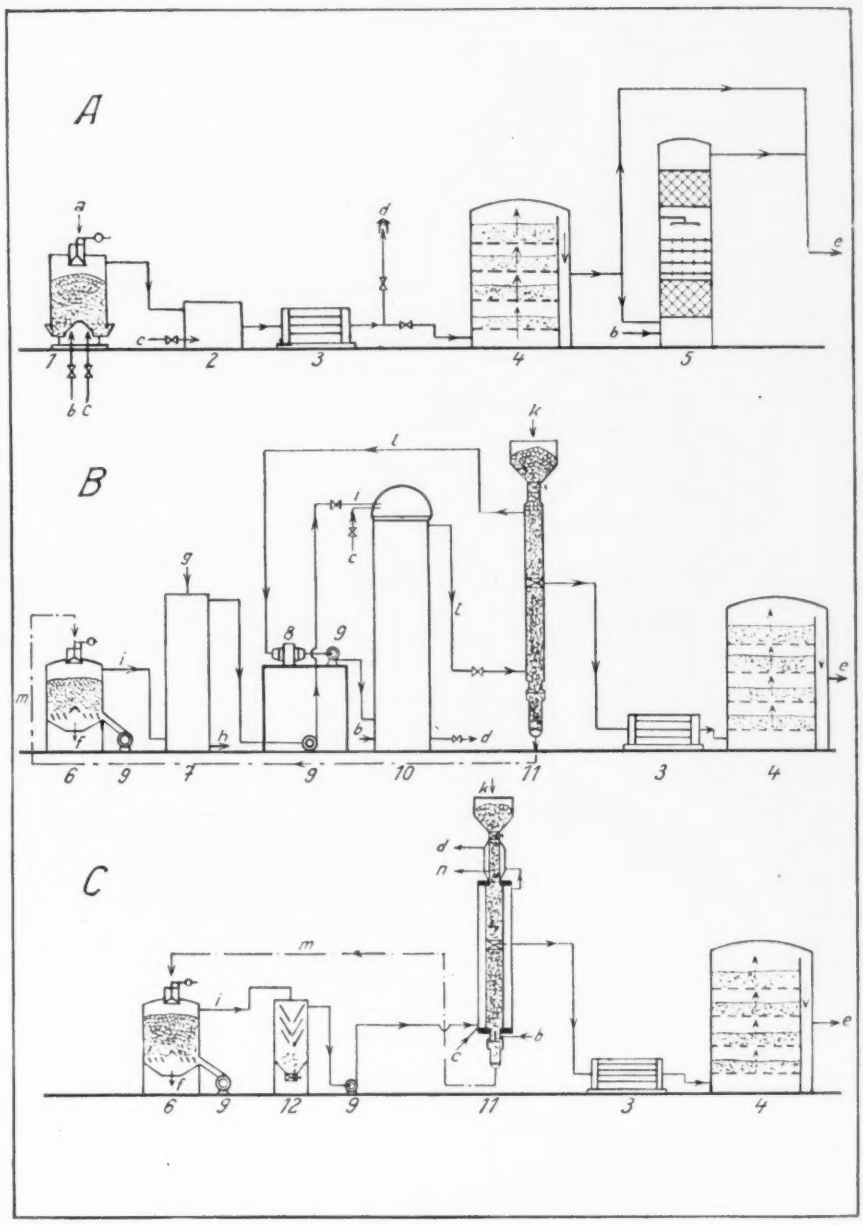
If the coal in that process is

replaced by crude lignite as the raw material, the reaction proceeds in much the same way. In that case a coal drier is placed in front of the coal mill—preferably a ball mill— with the object of reducing the water content of the lignite to a suitable degree. If raw lignite were treated in the same way as ordinary coal, the fuel produced would have a lower antiknock quality. In order to get around that difficulty, the lignite must be enriched with aromatic hydrocarbons. The middle oil can either be treated at a comparatively low temperature (400° to 410° C.) with strongly hydrogenating catalysts, or, at higher temperature (500° C.), with a catalyst which hydrogenizes less strongly, according to the type of gasoline which it is intended to produce. In the former case, the light oil produced with higher hydrogen content has generally less antiknock quality; in the latter case, aromatic gasoline is produced with little hydrogen content. The former must be washed with lye, while the latter are refined and redistilled as desired. By blending the two, the knocking properties can be adjusted according to the requirements of the market.

HIGH-PRESSURE hydrogenation is most simply carried out with low-temperature tar as the raw material, and the plant for the treatment of the coal and the residual coal can be dispensed with. The low-temperature tar is first freed from solid admixtures by centrifuging and is split up by distillation into a heavy and a light component; the former is introduced into the sump retorts instead of the coal slurry, and the latter is led directly into the gasoline retorts. Thus gasoline retorts of about the same size are required for the same output as for the direct hydrogenation of coal, but only part of the sump retorts required for the hydrogenation of coal are needed when tar is used as the raw material.

The *synthetic production of motor fuels from gases according to the Fischer-Tropsch process* has been developed during a period of about 10 years, but the process has only quite recently been placed in commercial operation on a large scale. Any type of fuel suitable for the production of water gas can be used as raw material for the synthesis of gasoline. Research which has been carried out in Germany in connection with the development of the process shows that the following solid fuels can be used for the production of the gases required for the synthesis: Bituminous coal, coke, crude brown coal, brown-coal briquettes, peat, wood, and so on, as well as such gases as natural gas, coke-oven gas, and the like.

Figure 2.—Diagram of the production of gas for synthesis
Plant units.—1. Water-gas generator, 2. ignition chamber, 3. waste-heat boiler, 4. removal of H_2S, 5. converter, 6. light-gas generator, 7. scrubber, 8. electrical tar separator, 9. blower, 10. regenerator, 11. carburettor chamber, 12. dust separator
Course of materials.—a. Coke, b. steam, c. air, d. flue gas, e. finished gas for synthesis, f. ash, g. cooling water, h. waste water, i. producer gas, k. briquettes, l. circulating gas, m. residual coke, n. low-temperature gas



The economic production of the gas for the synthesis of gasoline is an important part of the process. The gas used is a type of water gas which must fulfill the following special conditions:

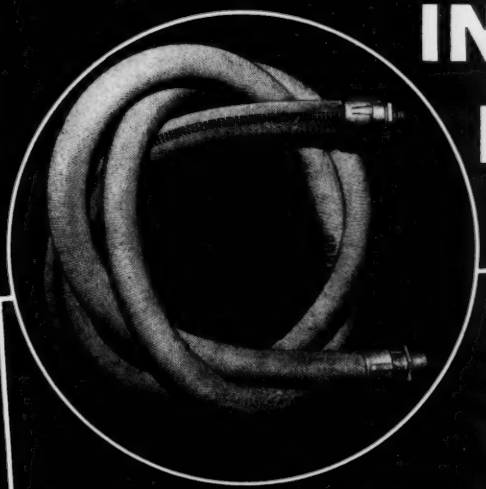
(1) The proportion of carbon monoxide to hydrogen must be 1 to 2.

(2) The content of inert matter (CO_2, N_2, CH_4) must be kept as low as possible, and should not exceed 15 per cent.

(3) Sulfuretted hydrogen must not be present in any detectable quantity.

The accompanying sketch

INSIDE FACTS ON HOSE ECONOMY



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(Fig. 2) shows diagrammatically the most important processes which are at present in use in Germany for the production of gas for the synthetic production of gasoline.

A is a diagram of a standard coke water-gas plant in which the requisite proportion of carbon monoxide to hydrogen is arrived at by converting part of the water gas produced.

B is a diagram of a plant for the production of the gas for synthesis from lignite briquettes. Gasification proceeds continuously in a chamber, into the lower end of which is introduced a current of strongly heated gas for synthesis enriched with steam. As the gas current rises in the chamber, the gas is cooled by the reaction of the steam with the coal. The finished gas for synthesis is drawn off while still hot in the center of the chamber, cooled in a waste-heat boiler, and freed from sulfuretted hydrogen in a standard unit for removing sulfur. Another part of the gas for synthesis flows through the upper part of the chamber, where it is drawn off cold and enriched with tar. After removal of the tar, the current of gas is mixed with steam, heated in a regenerator, and once more blown into the lower end of the carburetting chamber. The regenerator is heated with producer gas obtained from the residual coke which is withdrawn at the lower end of the carburetting chamber.

C represents diagrammatically another process for the production of gas for the synthesis from lignite briquettes. The heat of reaction of the steam combination is here introduced indirectly. The coal drops vertically through a chamber, the walls of which are heated from the outside. It is first carbonized at a low temperature and finally gasified with steam. The finished gas is drawn off in such a way that the low-temperature gases are cracked as they flow through the chamber. The walls of the chamber are heated with producer gas, which is obtained from the residual coke withdrawn at the lower end of the chamber.

The actual synthesis of gasoline is illustrated by Fig. 3.

THE gas for the synthesis freed from sulfuretted hydrogen, is first of all passed through a unit to free it from carbon disulfide compounds, where the sulfur at a temperature of about 250° C. is retained by a special purification mass. After purification, no carbon disulfide can be detected in the gas. The thoroughly purified gas is then introduced into a unit where it comes into contact with

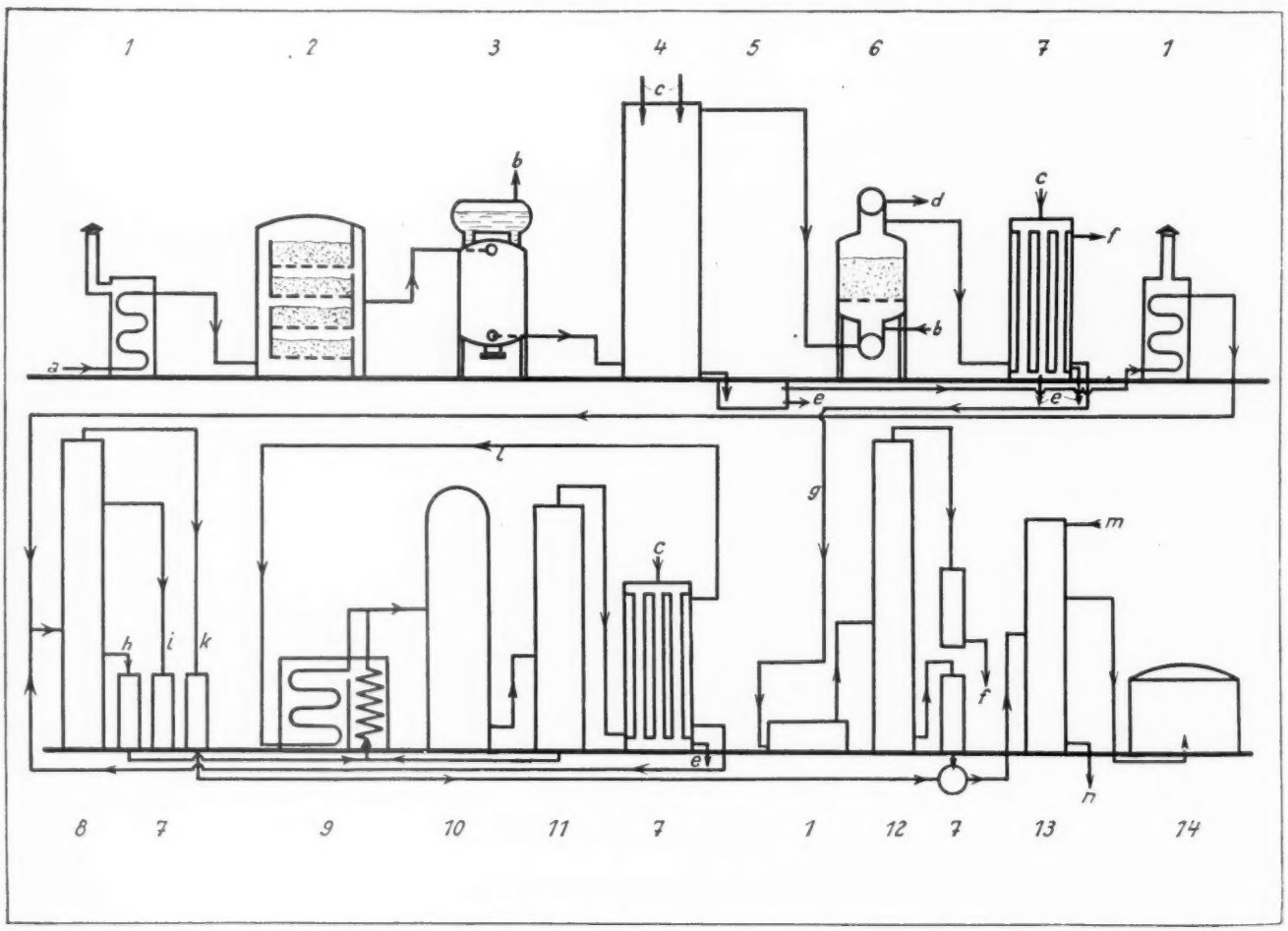

Figure 3.—Diagram of the synthesis of gasoline

Plant units.—1. *Heater*, 2. *removal of carbon disulphide*, 3. *contact retort*, 4. *gas cooler*, 5. *separating pit*, 6. *activated charcoal*, 7. *condenser*, 8. *distilling column*, 9. *retort for cracking plant*, 10. *cracking chamber*, 11. *fractionating column*, 12. *stabilizing column*, 13. *lye scrubber*, 14. *light-oil tank.*

Course of materials.—*a. Gas for synthesis, b. steam, c. cooling water, d. residual gas, e. waste water, f. propane and butane, g. gasoline, h. distillation residue, i. gas oil, k. low-temperature gasoline, l. circulating gas, m. fresh lye, n. spent lye*

A Refiners Diary

If he kept a diary, a certain western skimming plant refiner would have written in its secret pages this story:

1933—Company out of luck So are its creditors Future gloomy

1934—Management contracts for a Dubbscracking unit Gets bank loan—the record of Dubbs performance is well known

1934—(later) Dubbscracking unit making good Gasoline yield doubled Octane rating raised 5-10 points Sales going up

1935—Company making money Pays off substantial part of bank loan

1936—(First half) net profit a quarter million dollars Balance of bank loan paid off Dubbs unit running for all it is worth Future bright

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a catalyst and is converted into gasoline at a pressure of about 1500 mm. water column at from 180° to 195° C. The heat of reaction liberated by the formation of gasoline is removed in an evaporator, the tubes of which are maintained at a pressure corresponding to the reaction temperature, whereby the heat of reaction, which represents a considerable percentage of the heat of combustion of the gas used for the synthesis, is converted into steam which is utilized in the process itself.

A current of unconverted gas enriched with hydrocarbon vapors leaves the retort where the synthesis has taken place. In order to remove the hydrocarbons formed and the steam from the residual gas, it is cooled in a three-stage condenser which is directly sprinkled with water, where the products of higher boiling points are condensed. The cooled gas is passed to the activated charcoal unit, where the light oils are absorbed. Since a contraction of only about 60 per cent takes place during a single passage through the synthesis retort, the residual gas still contains a great deal of the heating value sent into the contact retort. In order to utilize further that heat for the production of gasoline, the residual gas is passed through a second synthesis retort where further contraction and formation of gasoline takes place. After the second stage of synthesis, which is not indicated in the diagram, the hydrocarbons are once more removed from the unconverted gas by cooling and absorption. The residual gas, which now contains a great deal of inert matter, is used for heating purposes.

Light gasoline is recovered from the activated charcoal unit by driving it out with steam, whereby a large quantity of gaseous hydrocarbons, which cannot be condensed with water, are recovered, consisting chiefly of propane, butane, and homologous products. These motor gases are led to a liquefying plant in which they are compressed to 20 atmospheres and can then be disposed of in the form of liquid gases. The synthetic oils, which are recovered by the direct heating of the residual gas, are converted by distillation into gas oil and gasoline. They pass through an oil heater and a three-stage distilling column followed by a separator which has also three stages, and the final products are gasoline, gas oil, and a residue which is cracked to increase the yield of gasoline. Cracking may be carried out in different ways. In the present example, the "True Vapor-phase" process is made use of.

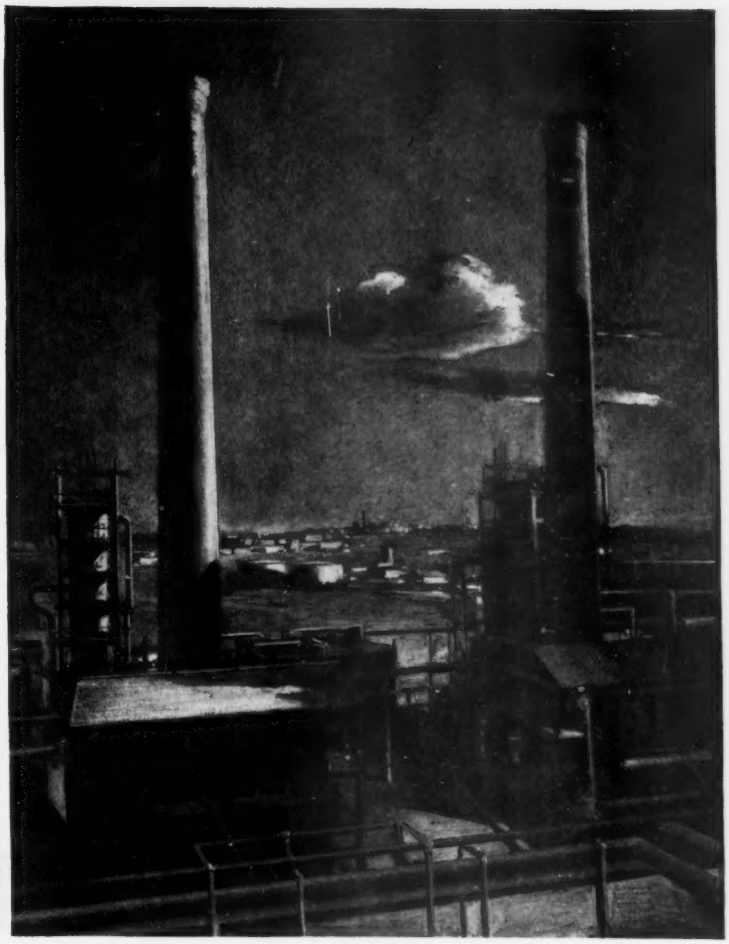
THE product to be cracked is passed through an evaporator under a pressure of 12 atmospheres. The vapors are heated and enter the reaction chamber, into which a circulating gas current is blown after it has been brought up to the required reaction temperature. After passing through the reaction chamber, the heavy and light constituents are separated from one another and the former are returned to the cracking process. The light gasoline is stabilized by means of superheated steam and distilled in the usual way, after which it is washed with lye and is then ready for use as motorcar gasoilne and can be run into the tank.

The other processes besides hydrogenation and synthesis which are used in Germany aim to produce, in the first place, intermediate products from coal which are rich in hydrogen and then to convert them into motor fuels. Distillation by low-temperature carbonization of fuels occupies a prominent position in the economics of motor fuels in Germany, but it is almost entirely confined to the brown coal of central Germany which is specially adapted for the purpose owing to its high bitumen content.

The *carbonization of bituminous coal at a low temperature* had been taken up here and there in Germany, but the problem of producing a lumpy coke ready for sale as a byproduct was not at first solved. Stubborn efforts to reach that goal have finally been successful in making this method of motor-fuel production also economic. After pilot plants had proved a success, the erection of commercial plants by the formation of a community enterprise by the parties concerned has been brought closer to reality. Long-flame gas coal is best adapted for low-temperature carbonization and gives a yield of about 90 kilos of low-temperature tar per ton of coal. The tar is aliphatic in character and about 25 per cent of it boils below 300° C. The low-temperature coke production amounts to about 10 times the quantity of low-temerature tar.

The *low-temperature carbonization of brown coal* has been carried out in central Germany for about 90 years and has been developed on modern lines within the last 10 years by the introduction of new low-temperature retorts. Two types of these retorts have been adopted in Germany — the vertical rotary retort and the circulating gas process. The former type can deal with 130 tons of raw brown coal daily. The circulating gas process has recently been gaining more ground and a retort of that type can treat 250 to 300 tons of briquettes daily. All the large-scale low-temperature carbonization plants that have lately been installed in Germany operate with circulating gas retorts. The process is described below. Numerous publications exist about indirect low-temperature carbonization in the vertical rotary retort.

The upper part of the circulating gas retort serves as a drier, whereby the water expelled by the hot circulating gas escapes into the open air, so that only chemically formed water is obtained in the lower part of the retort. The tarry gases from the zone of low-temperature carbonization pass through a dust separator and are then freed from tar by electric means. After their passage through a water-tube cooler, they are freed from light oil by blowing them through a washer through which oil trickles. A part of the gases is returned to circulation and is burned to form the circulating gases necessary for the low-temperature carbonization, while the rest is utilized by being burned under the steam boilers. The circulating gas has a heating value of about 1500 kcal/m³ after it has been freed from tar and washed. The light oil, also known as raw gasoline, is recovered from the tar-scrubbing oil used for sprinkling in the gas washer, for which pur-



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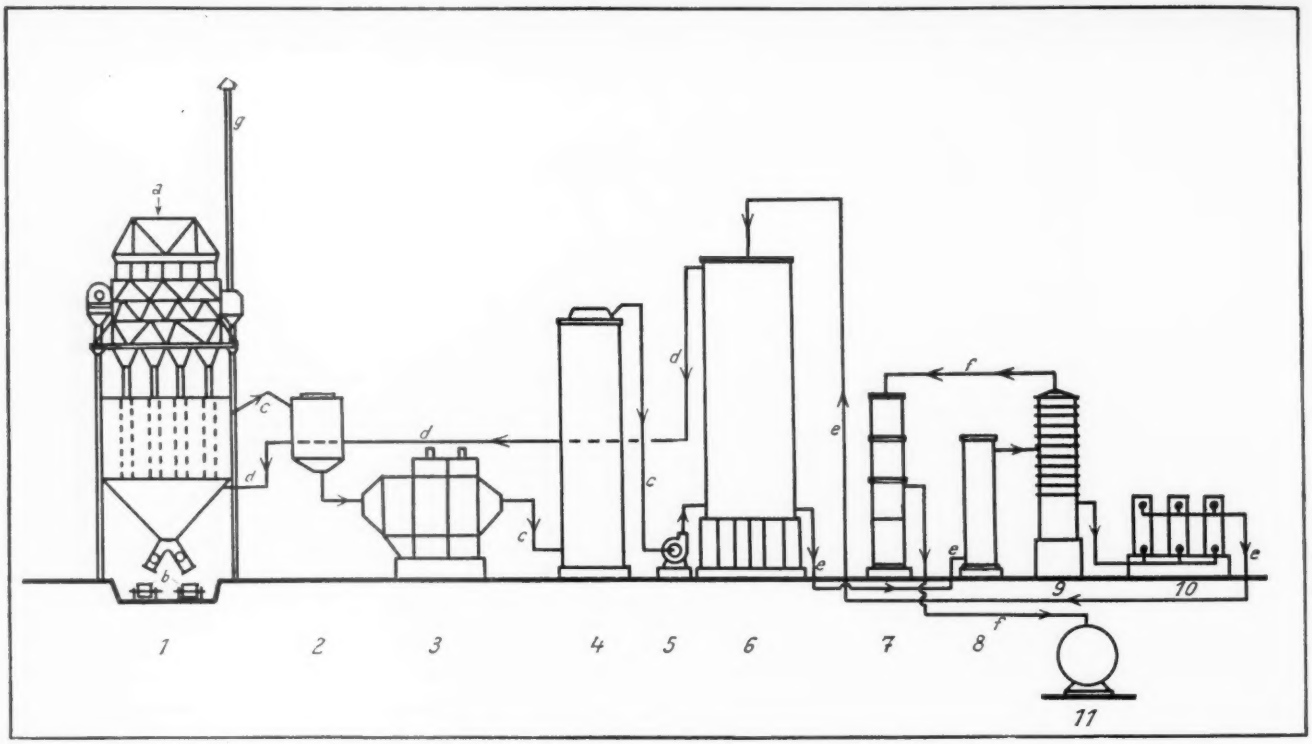

Figure 4.—Diagram of the production of gasoline by the circulating-gas, low-temperature process.
Plant units.—1. Low-temperature retort, 2. dust separator and precooler, 3. electrical tar separator, 4. condenser, 5. blower, 6. gasoline scrubber, 7. gasoline cooler, 8. oil heater, 9. still, 10. oil cooler, 11. gasoline tank
Course of materials.—a. Brown-coal briquettes, b. low-temperature coke, c. low-temperature gas, d. circulating gas, e. scrubbing oil, f. crude gasoline, g. flue gas and steam (Brueden)

pose the oil is heated, cooled again in the same circulation for washing the gases once more, and the light oil is driven off and precipitated.

Definite limits are set to the recovery of motor fuel from lignite by low-temperature carbonization owing to the restricted possibilities of utilizing the low-temperature coke which is produced at the same time, because the market for household coke is incapable of expansion, so that new low-temperature carbonization plants could only be erected in direct connection with power plants, where the pulverized coke is burned under the boilers.

The *tar is mostly distilled* to produce hard and soft waxes, together with the ordinary commercial oils, while the distillation residue is employed as pitch or electrode coke. *Sometimes it is cracked,* when the main product, gasoline, is charged with less byproducts. The new large low-temperautre carbonization plants supply the raw material for hydrogenation.

Another method of utilizing coal which has been tried out in Germany is the *extraction process,* according to which the coal is exposed to the action of solvents at a high temperature which dissolve up to 80 per cent of the coal substance which can then be separated from the residue by filtration. The solvent is distilled off, leaving behind the coal substance, free from ash. The product has a promising future as raw material for hydrogenation.

In connection with the description of the technical features of the processes, the following summaries will give the characteristic data required to arrive at a definite opinion as to the merits of the most important of them.

Table 3 shows the properties of the various types of gasoline produced from coal in Germany which can be altered and adapted to other market requirements.

The roman numerals in this and the following tables indicate the following processes:

I. High-pressure hydrogenation of brown coal or lignite.
II. High-pressure hydrogenation of bituminous coal.
III. High-pressure hydrogenation of tar.
IV. Synthesis from brown coal.
V. Synthesis from coke (bituminous coal).
VI. Cracking of tar.
VII. Low-temperature carbonization and distillation.

It will be observed from these figures that the various types of gasoline obtained by hydrogenation and synthesis

TABLE 3

Properties of gasoline produced from coal

Ultimate Analysis	I	II	III	IV+V	VI	VII
C.....per cent..	85.9.....	85.3.....	85.5.....	About 85.0	85.6	85.6
H.....do..	14.0.....	14.7.....	14.5.....	About 15.0	13.8	12.6
S.....do..	0.1.....	0.01.....	0.1.....	About 0...	.6	.8
O+N.....do..	.....	.....	.....	.....	.....	1
Specific gravity.....kg/l..	0.73 to 0.75	0.73 to 0.75	0.725 to 0.74	0.71.....	.76	.76
Boiling point.....°C..	40.....	30 to 40...	35 to 40...	40.....	50	.....
End of boiling.....°C..	200.....	175.....	170 to 185.	190.....	190	.....
Evaporation test.....mg/100	Below 10..	Below 10..	Below 10..	3.....	2-3	.....
Octane number.....	68 to 70[1]..	67[2].....	60 to 70...	64.....	72	.....

[1] As mentioned on the third page of this article, this gasoline is partly produced at a high temperature and is consequently rich in aromatic bodies and the octane number is raised.
[2] This octane number can be raised (cf. note 1), as also that of the synthetic gasoline.

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TABLE 4

Quantities of raw materials required for the actual processes for the production of gasoline

(Consumption of raw materials per kilo gasoline)

	I	II	III	IV[1]	V[1]	VI
Quantity in kilos	2.5	1.66 1.66	1.25	10	5.4	2.7
	Dry brown coal	Pure coal	Low-temperature brown coal tar	Brown coal briquettes	Coke	Low-temperature brown coal tar
Heating value: kcal	14,100	12,900	11,900	17,000	37,500	25,700

[1] The figures apply for single stage operation of the synthetic process: when several stages are introduced, the consumption figures are reduced by from 30 to 40 per cent.

are fully equal to the refined gasolines obtained from crude oil. The composition of the gasolines obtained by cracking and especially by distillation differ chiefly in their sulfur content from the standard types of gasoline. The quantities of these types of gasoline that are available are irrelevant compared with those produced by hydrogenation and synthesis.

The great differences in these figures are an expression of the great diversity of the process designated by the roman numerals. For instance, the raw material employed during the actual formation of gasoline in the high-pressure hydrogenation process is almost entirely converted into motor fuels, as far as its chemical composition permits. The synthetic process does not allow of such a concentrated utilization of the fuel. The conversion of the raw material into water gas and the ensuing reduction of the carbon monoxide are connected with endothermic reactions which claim for themselves part of the heat of combustion of the raw material. That circumstance, however, does not indicate that the synthetic process is economically less valuable, because the process is arranged so skilfully from a technical point of view that it is feasible to utilize endothermic reactions and residual products by returning them to the process. It is in that way to a great extent independent of other sources of energy.

Taking all the sources of energy into account, the thermodynamic efficiency[2] of the synthetic process lies between 0.2 and 0.3, compared with 0.3 and 0.4 for the hydrogenation process.

Although the costs of production of all the processes carried out on a commercial scale lie practically on the same level under the conditions at present obtaining in Germany, their distribution under various headings presents great differences. That circumstance, too, is a consequence of the technological differences between the processes, because they are carried out within utterly different ranges of pressure and temperature.

The tabulations (6 and 7), which follow, are also important for the purpose of arriving at a final estimate of the value of the individual processes.

A careful consideration of the characteristics here set out will afford an indication of the special fields of application of each process.

The most valuable feature of the high-pressure hydrogenation process lies in the production of gasoline in very large units, the low cost of current, and especially in the possibility of using crude crude oil instead of coal of coal products. The hydrogenation of tar is suitable for the production of motor fuel when the sale of low-temperature coke, the byproduct of the tar production, is assured.

The synthetic process for the production of motor fuel is especially adapted for the operation of small units with extensive subdivision. The application of the process is further especially indicated when suitable gases such as natural or coke-oven gas, are available.

The production of motor fuel by the low-temperature carbonization of coal, distillation, and cracking is only applicable when a market for the numerous byproducts is assured. The special advantage of the process is the feasibility of operating with very small units.

THE various processes for the production of motor fuel from coal are at present utilized to a varying extent in Germany. The high-pressure hydrogenation and synthetic processes are the most important. The distribution of the production figures is partly due to the fact that the processes were developed one after the other, high-pressure hydrogenation being about eight years older than the synthetic process. Other processes, such as the coal extraction process, are of very recent date. It is a possibility to be reckoned with that hitherto undeveloped processes may make a greater showing in the future.

But even the process that has been carried out for the longest period of time—high-pressure hydrogenation—is quite capable of further development. Indeed, it may be affirmed without hesitation that the produc-

TABLE 5

Distribution of production costs of motor fuel by groups

Raw material	V Coke	VI Tar	VI Crude coal
COST GROUPS	*Per cent*	*Per cent*	*Per cent*
A. Raw materials, less sums credited	42.5	74.5	0
B. Charges: Current, steam, water, wages and salaries, operating material, licenses, etc.	22.1	12.5	55
C. Overhead charges: Depreciation, management, capital tax, industrial burdens, turn-over tax, contingencies, development	21.4	10.0	30
D. Profit: Interest, repletion of legal reserves	14.0	3.0	15
Cost of production	100.0	100.0	100.0

[2] Thermodynamic efficiency is defined as the quotient—energy of finished products divided by energy of raw material.

DUPRENE AT THE TEXAS CENTENNIAL EXPOSITION

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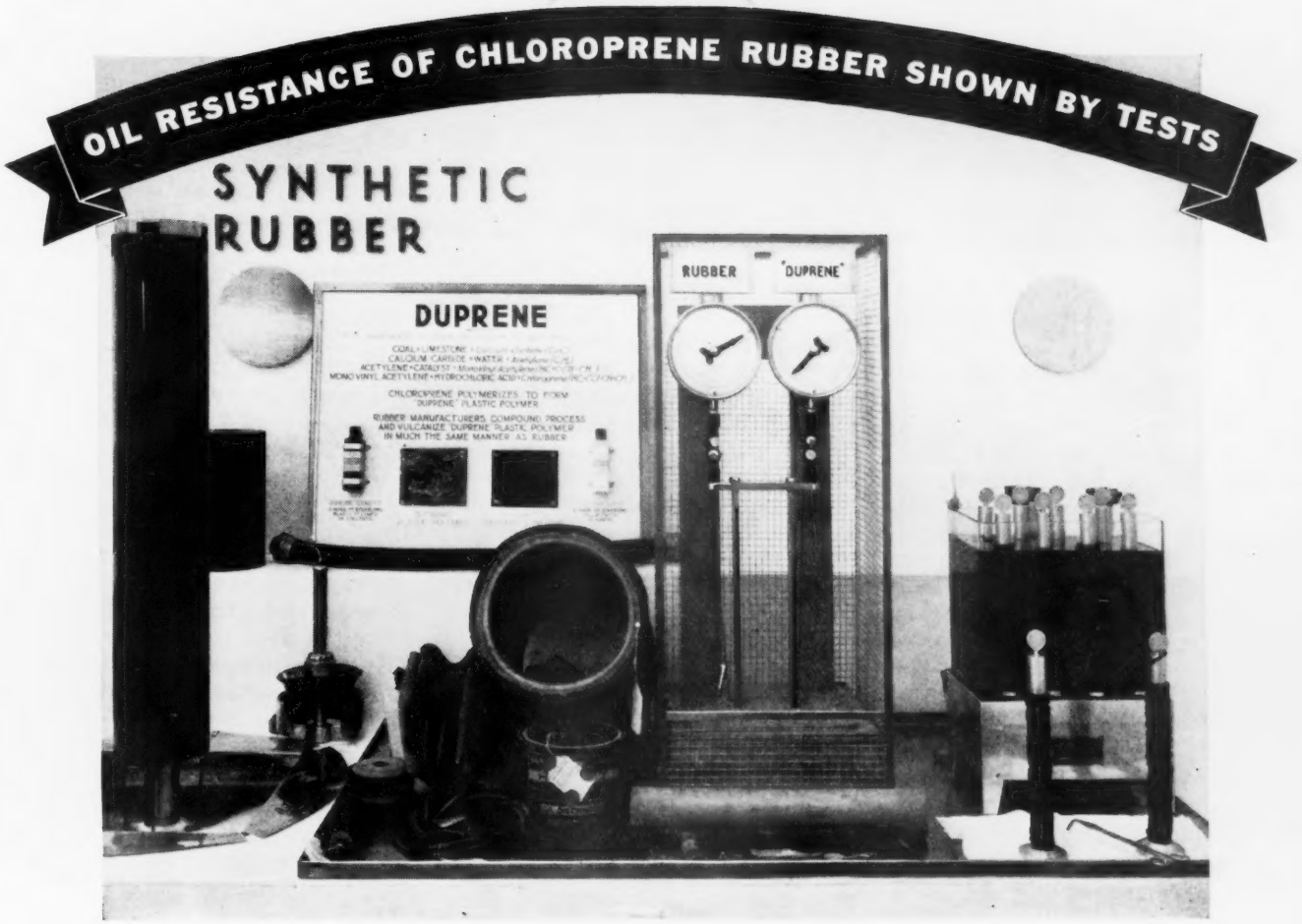

FEW OF THE WONDERS of this great exhibit attract as many interested visitors as the dramatic demonstration of the remarkable oil resisting properties of DUPRENE—du Pont's chloroprene rubber.

Engineers are even more interested than the layman in this new chloroprene rubber. They know that DUPRENE compounds also have unequalled resistance to heat, sunlight and ozone, plus the resilience, strength and abrasion resistance of natural rubber.

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TABLE 6

Smallest units that can be economically operated[1]

	I	II	III	IV	V	VI	VII
Annual production of fuels (tons)	40,000	40,000	35,000	25,000	20,000	12,000	10,000 tar; 900 gasoline.

[1] These figures correspond to the units of the German plants that have so far been erected; under other favorable conditions, even smaller units might be economically operated.

TABLE 7

Byproducts per short ton of gasoline produced

Byproducts	I	II	III	IV	V	VI	VII
HYDROCARBONS							
Fuel gases, tar, fuel oil, bitumen, phenol, etc.	0.2	0.2	0.12	0.24	0.24	1.2	11
Low-temperature coke	....	....	6.1	....	....	11	55

tion of motor fuel from coal will still be in its infancy for the next 10 years.

The importance of the coal-processing industry for Germany, the leading branch of which is at present the production of motor fuel, is not confined to the production of hydrocarbons for internal-combustion engines. Beyond that there are roads to be discerned that lead to a large number of important organic compounds which are of the highest importance for the shaping of our daily life and which might be produced synthetically.

By the production of motor fuel from coal we hope to have made a contribution toward ensuring the supply of power for all future. Although the petroleum resources of the world cannot yet be completely estimated, it is at all events certain that the coal resources of the world, expressed in calories, are many times greater. If we assume that the known world petroleum resources will not be increased by further discoveries of any great importance, the generation now being born is bound to experience a shortage of the oil supplies of the world, especially in view of the ever-growing consumption of liquid fuels. When that occurs, the production of liquid fuels from coal will rank as one of the most important of the industries of our civilization.

Summary

The processes carried out in Germany for the production of motor fuels from coal are described and their results are compared. By means of these processes, any fuel can be converted into gasoline of the highest quality. Some of these processes can make use of foreign crude oil instead of coal. The production of liquid fuels from coal will attain its real importance for the world when petroleum resources begin to fall off and a shortage becomes apparent.

New Michigan Well

MT. PLEASANT, Mich., Sept. 4—A 1500-barrel oil well was struck this week in the old Vernon field. This field has been producing thousands of barrels of water for three years, but after flowing for 24 hours the new well was still producing clean oil. It is owned by the J. V. Wickland Development Co.

Correction

In the article, "Forced Circulation Applied To Steam Boilers", by J. R. Darnell, in the Sept. 2 issue, page 26, second column, the text, beginning with the last sentence of the second paragraph, should read:

"So far as is known, in addition to the structures shown in the Jenkins and Isom patents previously mentioned, only one other still in the history of oil cracking has used a propeller for enmasse circulation of a large bulk of oil under treatment. This is shown in U. S. Patent No. 1,337,831, filed in 1919, and issued in 1920 to Victor L. Emerson."

W.P.R.A. Plans Technical Meeting Series

TULSA, Sept. 4.—The fall program of the regional technical meetings of the Western Petroleum Refiners Association has been announced, by Emby Kaye, chairman of the technical committee, as follows:

Wichita, Kans., Sept. 29.
Tulsa, Oct. 2.
Wichita Falls, Oct. 14.
Shreveport, Oct. 16.

Three technical papers on refining subjects will be presented at each meeting. No duplication of papers will be made; and the subjects will be chosen for their interest to the refiners local to each meeting, the chairman announced.

British Oil Search Extending

LONDON, August 27th. — The D'Arcy Exploration Company, a subsidiary of the Anglo-Iranian Oil Co., has decided to extend its search for oil in the United Kingdom. Encouraged by the modern methods of geophysical survey now in use, D'Arcy plans to start operations near the Hardstift bore, Derbyshire County, which has been producing small quantities of oil for many years.

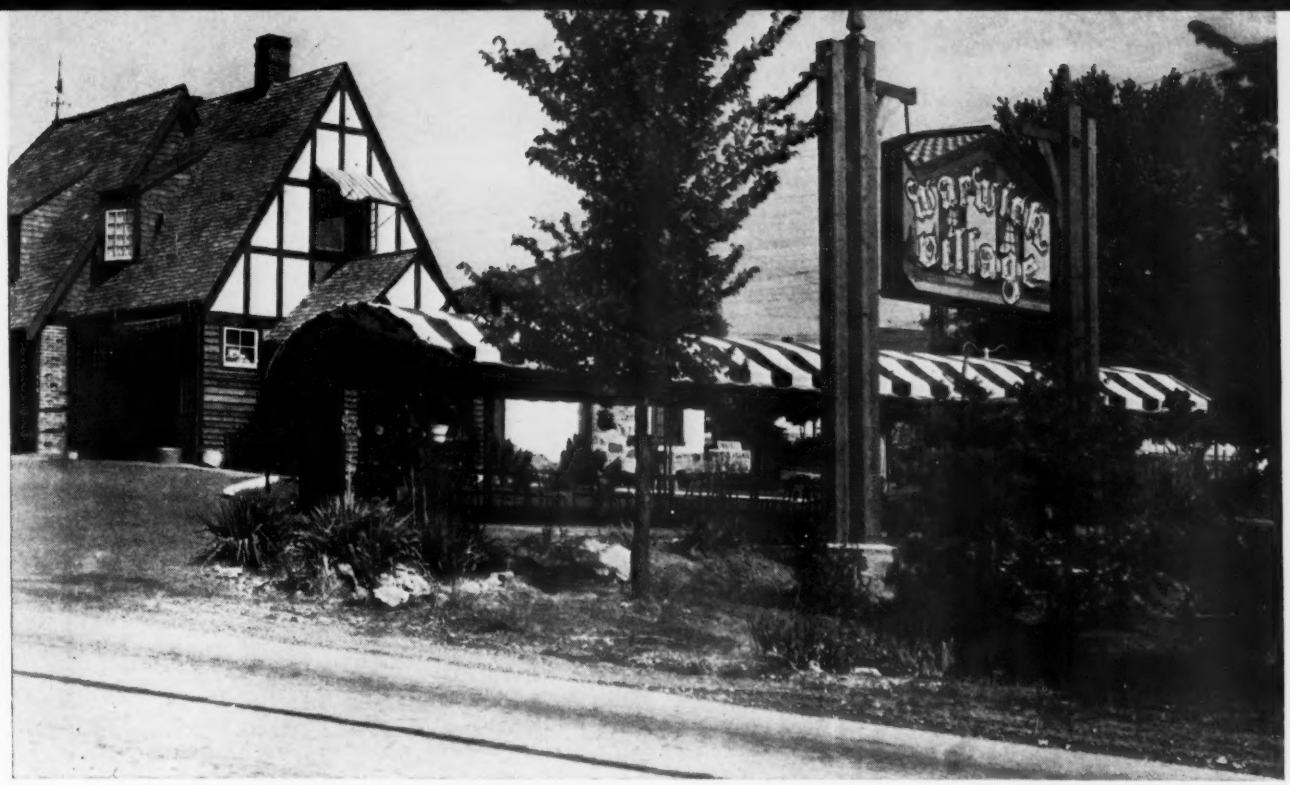
Meanwhile work on the D'Arcy bore in the south of England is going ahead steadily. The bore is now down to 3200 feet.

To Help Bradford Research

BRADFORD, Pa.—The Bradford District Pennsylvania Oil Producers Association will have the help of the Shell Petroleum Corp. in conducting its research activities on secondary recovery methods, according to the association's bulletin.

R. B. Roark, Mid-Continent production manager for Shell, has been made a member of the research advisory group which is conducting experiments at Pennsylvania State College under the auspices of the association.

The association was formed in 1933 by a group of Bradford producers. The primary object of the group is to seek a greater recovery of crude from the Bradford sands.



The open air restaurant at Warwick Village. This spot is extremely popular with residents of Jefferson City, as well as with the over-night guests at the Village

Jobber Builds $38,000 Tourist Camp Yielding 18% Net Return

By **ALLEN S. JAMES**
N. P. N. Staff Writer

HOW to continue the reinvestment of their earnings, and to utilize an increasing amount of spare time, was beginning to develop into a problem for Thomas L. Price and John G. Gibson, owners of the Capital City Oil Co. at Jefferson City, Mo.

This jobber partnership, formed in 1922, already had more than 25 per cent of the gasoline gallonage in the city, and further expansion was deemed uneconomical, in the face of competition from some 18 other oil companies. Expansion into the rural districts was considered unsound financially. The company had about all the heating oil business it could handle profitably. And to begin handling accessories at its stations would mean the immediate loss of three of their largest commercial accounts.

The Warwick Village solved the problem.

To label the Village, nestled in the "Y" where two major U. S. highways merge at the eastern edge of the city, just a tourist camp is as inappropriate as calling a diamond a crystal. It is a place designed specifically to appeal to that rapidly increasing number of motorists who want comfort with their traveling, but who dislike the fuss and bother of getting into and out of hotels. It is decidedly not a place for those tourists who drive around over the country with the inside of the car packed with humans and belongings, and everything but the cook stove tied on the outside.

Virtually every comfort of a modern hotel is provided at the Village. Each cabin has its own phone, radio, fan, private bath, private garage with private door from garage to bed room; there is steam heat and maid service, and the restaurant serves meals in the rooms when requested.

There is one thing missing at the Village that is ever-present at hotels. There is no bellboy or porter, and this one omission of service is deliberate. "We found through inquiry," Mr. Gibson explained, "that a majority of our guests much preferred to drive right into the garage and remove their own luggage. After all it is only a matter of three or four steps from the car in the garage to the bed room."

It is somewhat difficult, meanwhile, to look at the Village with its artistic landscaping and comfortable cabins, and realize that just a little more than one year ago that triangular site between the two highways held nothing but a small service station and several bill boards.

The Capital City Oil Co. bought the site about six years ago. It looked like a desirable service station site, and perhaps later it might be used also for

a drive-out-and-park restaurant location. "We did not know when we bought the site," Mr. Gibson said, "just what use we would make of it, other than that we would use a part of it for a service station. But the site looked pretty good to us, and that is why we paid $3000 for it. We bought it from a fellow who had paid $1000 for the property, and he had bought it from a man who had obtained it for $400 several years ago. We were offered $6000 for it before we started The Warwick Village."

After buying the site the company erected a small, English type service station. It was not until after Mr. Gibson had inspected a number of West Coast camps that he and his partner decided to build a camp at that location. "And when we decided what we were going to build," Mr. Gibson explained, "we agreed between ourselves that what we built would be the best our money could obtain."

One of Missouri's better known architects, Harry Satterlee Bill, was commissioned to design the entire Village. "Make it a credit to the Capital City," he was told.

Around three sides of a square courtyard Architect Bill designed 14 cabins and their garages. Two of the cabins he made into suites, the others are one room and bath affairs. The cabins and garages all are joined, one to another, yet no two of the cabins are alike in either outside appearance or interior arrangement.

THE concrete walk around the front of the cabins serves a dual purpose, for it also is the covering for a concrete conduit carrying the steam and water pipes to the cabins.

In the center of the courtyard is a water fountain with concealed colored lights which make a beautiful picture at night. The area between the fountain and the concrete walk in front of the cabins has been converted into an excellent chat-covered drive. Each cabin has its little bit of lawn and shrubbery.

The cabins have been equipped with French windows and Venetian blinds. Some of them have in-a-door beds, which permit transformation of the bed room into a living room during the day. Others have studio couches which can be opened easily. Still others have twin beds.

The walls and ceilings have been insulated with balsa wood. Thin partitions which permit transmission of sounds from room to room do not exist in this Village.

The architect tied the service station building into a large English type structure which, on the first floor, contains the service station offices, the restaurant and the Village office. The second floor is a large apartment occupied by the manager and his family. In the basement is the steam heating plant, burning oil, and the hot water heater, also equipped with an automatic oil burner. It costs about $600 a year to keep the cabins heated and the hot water always ready for the cabins and the restaurant. The linen store room and the restaurant's store room also are in the basement.

No change was made in the location of the pump islands when the station was remodeled. There is an island at each side, easily accessible from either highway. The grease lift, however, has been moved, and its former location put to a far more attractive use. The lift was directly in front of the station, and around the lift proper a large area of concrete had been placed. This concrete has been stained a grass green, a large green and white striped canopy placed over it, and right there is one of the most pleasant open air eating places

What was once only a small service station building at this site now is a service station, restaurant, and home. At the left and rear can be seen some of the Warwick Village cabins

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Reports from owners indicate that Fords are taking over jobs that formerly required trucks costing far more. Fords may be able to handle jobs for which you now use high-cost trucks. Why not get the facts yourself? Call your Ford dealer and set a date for an "on-the-job" test with your own loads, under your own operating conditions!

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• Any new 112-inch wheelbase Ford V-8 Commercial Car can be purchased for $25 a month, with usual down-payment. Any new 131½-inch or 157-inch wheelbase Ford V-8 Truck can be purchased with the usual down-payment on the new Universal Credit Company ½% per month Finance Plans.

FORD V-8 TRUCKS

The fountain in the center of the courtyard at Warwick Village. Concealed colored lights play on the fountain at night

one could imagine. Not only does it get a large percentage of the guests at the Village, but scores of the city's residents drive out in the evening for dinner.

This Warwick Village, which can accommodate as many as 50 guests at one time, cost the Capital City Oil Co. approximately $38,000. But it does not take any straining of eyesight to see where the money was spent—and spent wisely. Cheap material had no place in the scheme. The fountain, made by a steel company at Kansas City, cost approximately $350. The large neon sign was a $400 proposition. And you do not get at the cut price places the kind of Venetian blinds, the bath room fixtures, the mattresses and the other equipment you find so much in evidence at this Village.

But it might be well to look at the other side of the ledger for a few minutes. There is scarcely a night but what the demand for cabins exceeds the supply, despite the fact the rates are $3.50 per couple per day.

The "slimmest" week the Village has experienced so far resulted in the cabins bringing in $250. The highest week brought in $315. With the first year's operation just about ended, it appears now that the Village is going to give the Messrs. Price and Gibson approximately 18 per cent *net* on their investment. And the station's business has doubled within the past year!

No wonder Mr. Gibson is eyeing that vacant tract just across the highway—by next spring it may be another group of cabins, or a de luxe trailer camp, but more likely the former.

Mr. and Mrs. George Bordeaux operate the restaurant and supervise the routine management of the Village. The station attendants, in the spare time, look after a good portion of the shrubbery around the Village. Then a tank wagon driver devotes a portion of his spare time to the upkeep of the place.

It's a fine place to stay—we know from experience!

Liquefied Gas Sales Gain

NEW YORK, Sept. 5.—Liquefied gas sales totaled 76,855,000 gallons in 1935, a gain of 36.2 per cent over 1934, according to the American Petroleum Institute. Consumption of this product has gained 326 per cent during the six-year period from 1930 through 1935.

About 21,380,000 gallons, or nearly 28 per cent of the 1935 consumption was used for domestic purposes; about 10 per cent, or 7,581,000 gallons was mixed with manufactured gas to increase the heat value; and 62 per cent, or 47,894,000 gallons was used for industrial purposes. The bulk of the liquefied petroleum gas used in 1935 was propane, closely followed by butane. Propane-butane mixtures and pentane accounted for the remainder.

To Talk Pumps

LOS ANGELES, Sept. 2.—Pump dynamometers were scheduled to be discussed by Wallace Gilbert, Shell Oil Co., at the meeting of the Los Angeles Basin Chapter of the A.P.I. division of production, held at Shell Recreation Hall, Long Beach, Sept. 8.

The interior of one of the cabins at Warwick Village, showing the living room furnished with a studio couch and fireplace

ADVERTISING PAGES REMOVED

Third of U. S. Lube Output is Exported

Despite Development of Foreign Refineries American Lube Exports Have Risen Steadily in Value Since 1932, Now Equal 37 Per Cent of Refined Oil Export Value

By PAUL L. HOPPER*

• • •

CONSUMPTION of American lubricants is world wide. Last year shipments were made to all but 3 of the 110 countries and political divisions for which separate statistics are available. As will appear subsequently, even those countries having extensive petroleum refining industries find the purchase of American lubricants desirable. Approximately one third of the entire lubricant output of refineries and compounding plants in the United States is required to meet the export demand.

Shipments of lube oils from the United States rose steadily in value during 1933, 1934 and 1935 notwithstanding a sizable contraction in volume in 1934 due to the higher value of American lube oils abroad resulting chiefly from better domestic prices for crude and reduced value of the dollar. Exports of these oils of 8,147,000, 7,556,000 and 8,399,000 barrels had an invoiced value of $55,901,000, $58,870,000 and $62,438,000 respectively during 1933, 1934 and 1935.

Foreign shipments of lube oils in 1935 exceeded in quantity those of 1933 for all but 5 of the 56 countries tabulated. Noteworthy were increases to Canada of 139,000 barrels, to Japan of 117,000 barrels and to Italy of 104,000 barrels. Moderate gains in imports of American lube oils were accounted for by Australia, Brazil, Germany, Belgium, Denmark, South Africa and Sweden of respectively 57,000, 48,000, 39,000, 37,000, 32,000, 32,000 and 25,000 barrels.

Of the countries taking smaller quantities of American lube oils in 1935 than in 1933 France effected the largest reduction; exports to that country fell from 1,148,000 to 531,000 barrels. Shipments to the United Kingdom were less by 72,000 barrels, to China by 54,000 to British Malaya by 7,000 and to the Netherlands by 2,000.

A breakdown of lube oil exports indicates an approximate division of 60 per cent red and pale or neutral oils, 34 per cent cylinder oils, 5 per cent black oils and 1 per cent of insulating and transformer oils and lube oils in small packages. The average export value per barrel for all lube oils was $7.43 in 1935, a decline of 36c from 1934, but a gain of 57c over 1933. Comparable data for each of the various types of lube oils may be calculated from Table I. The export value per pound of lube greases averaged 4, 4.4 and 4.2 cents respectively during 1933, 1934 and 1935.

Foreign trade in lubricating greases will not be accorded separate treatment inasmuch as exports of these greases as to quantities and destinations generally do not differ materially from exports of lube oils.

The data shown in Table II while not always strictly comparable due to some use of fiscal years and inclusion of lube greases with lube oils for some countries, does, nevertheless indicate the predominate position of the United States in the international trade in lube oils.

Although demand for American lube oils is near universal, one half of the total volume of all foreign shipments currently goes to 4 European countries—the United Kingdom, Germany, Belgium and France, and these with 11 other widely scattered countries account for around 85 per cent of all lube oils exported from the United States.

The aggregate of lube oil shipments to the 4 leading foreign outlets for these American oils remained practically unchanged during 1934 and 1935, but noteworthy shifts did occur in the world ranking of these countries as purchasers of lube oils. Germany nosed out the United Kingdom for first place although the latter country remains far and away the best foreign market for American lubricants taking over 20 per cent of the total of lube oils exported from the United States. Approximately 60 per cent of the British demand for lube oils is supplied by the United States; most of the remainder, neglecting domestic production, now comes nearly equally from Russia and Mexico.

Between 1933 and 1935 German purchases of lube oils climbed from 1,935,000 to 3,062,000 barrels. Official statistics of that country showed American oils sustaining a larger than 40 per cent share of this trade while Department of Commerce figures indicate a decline from 42 to 31 per cent. Shipments of lube oils from Netherland West Indies to Germany increased from 27 to 31 per cent during 1933-1935; those from Russia declined from 27 to 20 per cent during the same period.

The accessibility of Belgium to other European countries to-

*Petroleum Expert U. S. Department of Commerce.

gether with a minimum duty entry for re-export trade enables it to serve as a depot from which lube oil shipments readily may be made to nearby countries. In consequence less than half the lube oils brought into Belgium are retained for consumption, the rest go into storage, usually at Antwerp, for re-export. Well over half the lube oils imported are shipped from the United States; another 25 to 30 per cent have been coming from Russia. The remaining 25 per cent is scattered as to origin, with German oils predominating.

While German lube oil purchases were being increased by 50 per cent those of France declined by a like amount, shrinking from 1,385,000 to 738,000 barrels between 1933 and 1935. American oils, however, continue to make up three fourths of the lube oils imported into France.

As regards home production in the four top rank foreign importers of American lube oils conditions are strikingly dissimilar. Sufficient of Germany's local crude production now amounting to around 3,000,000 barrels annually, conceivably could be processed to yield lubricants so as to meet the essential needs of industry, if necessary, without drawing on imports. Considering the insistent demands for other petroleum derivatives, it is highly improbable that such a course would be feasible during even a national emergency unless hydrogenation and carbonization of coal together with motor fuel substitutes could be relied on to supply sufficient gasoline and fuel oils. Large scale production of lube oils from coal now appears remote.

UNDER the circumstances Germany continues to import large quantities of lube oils. In fact domestic production just about matches exports, omitting transit trade. In 1935, 613,000 barrels of lube oils were manufactured in Germany. Of much more importance is the treating and blending of imported lube oils centered largely at Hamburg. Less than half the lube oils imported into Germany reach consumers unaltered as to characteristics and composition, and presumably much of the lube oils exported are actually re-exports of foreign oils bearing German brands and classified according to German specifications.

Rapid expansion of refining capacity in France in recent years has enabled a steady increase in the local production of lube oils. Statistics for 1935 show an output of 953,000 barrels of "lubricating and heavy oils," nearly two thirds of the current annual French consumption. Although France has sufficient plant for the manufacture of lube oils, crude for processing must be imported as domestic petroleum production is negligible. The United Kingdom, like France, lacks local crude supplies, and in consequence the domestic manufacture of lube oils is entirely dependent upon imported crude. In 1934, British production of lube oils reached 706,000 barrels, equivalent to 19 per cent of the total consumption. Petroleum is not found in Belgium in commercial quantities; neither has there developed an extensive domestic refining industry. Accordingly consumption is largely dependent on imports of lube oils.

Official data covering the Italian petroleum industry and trade during 1935 are incomplete. If import licenses are a safe guide, that country imported approximately 580,000 barrels of lube oils some 100,000 barrels more than in 1934. From 75 to 80 per cent of Italy's lube oil purchases come from the United States. Based on 1933 statistics, with allowances for reported expansion, Italian refineries probably have an annual production of 150,000 to

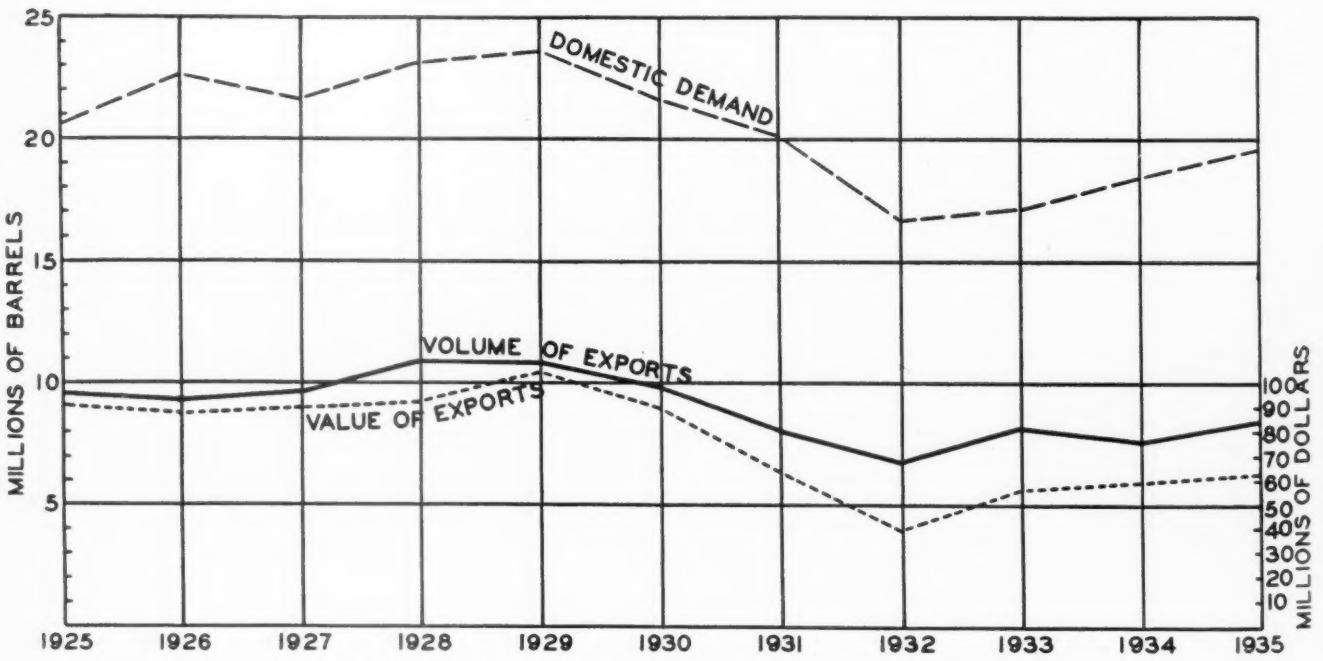
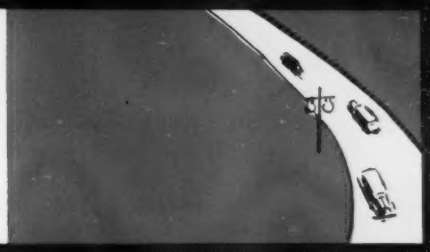


Fig. 1—Domestic and export demand for U. S. lubricating oils

WHEN YOU SELL



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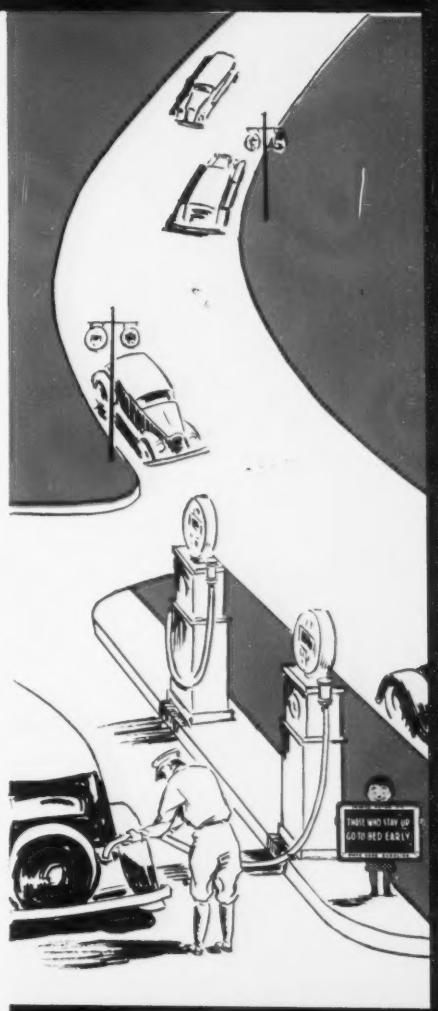
New names come and go, but White Rose Gasoline customers always return. No argument can equal the satisfaction of superior quality.



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EN-AR-CO LUBRICANTS AND GREASES serve every lubrication purpose.

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EN-AR-CO PENN MOTOR OIL is Pennsylvania oil at its Best.

200,000 barrels of lube oils.

Domestic production of lubricants is relatively unimportant in the European countries subsequently discussed although an indeterminate amount of blending and compounding of lubricants is done in several of these countries.

Lack of statistics showing countries of origin of lube oils imported into the Scandinavian countries render impractical any effort to divide this trade with accuracy among the supplying countries. It is probable that consumption of American oils is larger than direct exports to Scandinavia would indicate as indirect shipments of American oils from the United Kingdom and Continental Europe are relatively large. After the United States Russia appears as the likely original source of most of the lube oils imported into Scandinavia.

The Netherlands, to a lesser extent like Belgium, serves as a base for the reshipment of lube oils to adjacent countries. Roughly 80 per cent of the lube oils imported into the Netherlands are retained for domestic consumption. Re-exports, the bulk of which go to Germany, are probably smaller than shipments in transit to nearby countries of Central Europe. This trade is difficult to trace as to origin and destination.

Some special types of lube oils may be imported into Spain unregulated by the Petroleum Monopoly, but the bulk of these oils can enter only through permission of the C.A.M.P.S.A. much the same as with all other

TABLE I

United States Exports of Lubricants, 1933-1935

(Oils in 1000 bbls.; greases in 1000 lbs.)

	1933	1934	1935	1933	1934	1935	1933	1934	1935	1933	1934	1935	1933	1934	1935
	—Red and Pale—			—Black—			—Cylinder—			All Lubricating Oils			—Lubricating Greases—		
United Kingdom	1,097	1,019	1,094	82	91	76	741	595	682	1,920	1,705	1,852	12,176	12,886	14,702
Germany	558	482	437	5	5	10	343	452	543	906	939	990	6,626	8,963	7,888
Belgium	486	399	473	29	45	58	164	142	186	679	586	717	5,541	3,802	5,237
France	580	410	238	67	27	31	500	363	258	1,147	800	527	4,173	2,897	3,854
Italy	138	129	180	54	57	51	168	145	230	360	331	461	2,384	2,980	3,306
Canada	226	251	352	3	4	4	61	57	73	290	312	429	2,747	4,042	4,222
India	331	281	333	37	29	46	44	54	48	412	364	427	2,368	2,079	2,379
Australia	274	244	337	12	7	15	71	37	63	357	288	415	4,019	5,768	6,922
Japan	110	195	201	9	6	13	44	53	66	163	254	280	4,250	4,999	6,981
Netherlands	175	144	148	8	12	13	63	97	96	246	253	257	2,200	2,537	2,829
Brazil	95	109	110	19	12	13	66	73	102	180	194	225	2,078	2,902	1,519
Denmark	71	62	82	63	36	75	31	19	39	165	117	196	555	595	821
China	188	184	146	30	16	17	18	15	18	236	215	181	2,742	2,741	3,781
Sweden	39	55	70	21	16	9	10	12	16	70	83	95	573	787	1,183
Union of S. Africa	40	61	66	4	15	10	21	18	20	65	94	96	1,577	2,175	1,849
Spain	17	31	32	1	..	1	36	31	39	34	62	72	1,847	1,161	1,254
Philippines	48	49	56	7	8	9	6	4	6	61	61	71	2,504	1,724	3,150
New Zealand	32	32	50	3	2	2	16	8	16	51	42	68	1,144	1,682	1,691
Mozambique	38	49	50	3	1	1	15	9	14	56	59	64	1,727	2,205	1,679
Mexico	24	31	41	1	1	1	11	17	18	36	49	60	1,223	1,509	1,889
Egypt	18	18	30	..	..	..	8	9	30	26	27	60	99	151	283
Argentina	53	56	29	4	2	2	32	33	27	89	91	58	661	553	607
Netherland Ind.	31	26	37	11	7	3	7	6	10	49	39	50	531	463	840
Cuba	17	24	37	..	1	1	8	9	12	25	34	50	1,653	2,941	2,909
Greece	15	21	35	..	..	..	9	10	14	24	31	49	148	126	571
Portugal	14	32	23	5	..	7	10	16	17	29	48	47	202	276	325
Chile	15	20	22	1	3	2	8	11	19	24	34	43	280	789	1,226
Norway	16	10	32	1	..	1	5	6	10	22	16	43	300	343	456
Kwantung	12	18	33	2	2	..	5	4	3	19	24	36	571	903	1,448
Hong Kong	32	14	25	10	4	3	3	1	2	45	19	30	506	605	604
Brit. E. Africa	8	14	20	3	1	2	3	2	4	14	17	26	152	321	373
British Malaya	21	21	19	8	6	4	3	3	1	32	30	24	834	980	592
Uruguay	14	13	12	..	..	..	7	7	9	21	20	21	266	360	434
Venezuela	7	7	8	..	..	..	7	8	12	14	15	20	355	426	503
Fr. Indo China	7	10	14	5	2	3	2	1	2	14	13	19	154	355	425
Algeria and Tunisia	4	3	2	..	1	1	12	12	16	16	16	19	81	38	69
Turkey	4	5	10	..	..	..	4	1	5	8	6	15	31	35	74
Siam	5	5	11	2	1	2	1	1	1	8	7	14	166	160	458
Other Fr. Africa	5	6	5	..	..	1	3	5	7	8	11	13	116	195	211
Colombia	6	12	7	..	..	..	2	3	4	8	15	11	407	731	702
Rumania	2	1	4	..	..	..	8	6	7	10	7	11	52	69	39
Panama	5	6	6	..	..	..	3	7	4	8	13	10	262	227	235
Peru	3	4	5	..	..	..	3	5	6	6	9	11	196	270	279
Bolivia	1	1	2	..	..	..	4	4	7	5	5	9	296	222	441
Dominican Rep.	3	5	6	..	..	..	1	1	..	4	6	6	246	273	323
Irish Free State	2	5	6	..	1	..	1	1	1	3	7	7	59	80	88
Ecuador	4	2	3	..	..	1	1	1	1	5	3	5	148	217	194
Belgium Congo	4	3	2	1	1	1	1	2	2	6	6	5	80	98	127
Nigeria	3	3	2	1	1	1	1	1	2	5	5	5	22	28	21
Other Port. Africa	2	4	5	..	1	1	1	1	..	3	6	6	86	81	43
Canary Islands	5	5	4	..	..	..	1	..	2	6	5	6	67	71	92
Jamaica	3	2	3	..	..	..	..	1	1	3	3	4	130	155	201
Neth. W. Indies	2	2	1	..	..	..	3	4	4	5	6	5	95	216	17
Palestine	2	4	4	..	..	..	1	1	1	3	5	5	7	14	11
Italian Africa	..	..	1	..	..	..	..	..	..	..	..	1	4	1	13
Other Countries	53	65	74	10	8	10	28	29	41	90	101	126	..	..	..
Quantity in 1000 bbls.	4,966	4,664	5,035	519	434	501	2,626	2,413	2,817	8,021	7,410	8,227	1,645	2,293	2,177
Transformer and Insulating Oils										32	38	34	..	..	..
Lubricating Oils in Small Packages										4	7	12	..	..	..
Total Lube Oils—Thousands of Barrels										8,147	7,556	8,399	73,362	83,500	94,547
Value in $1000—	31,118	32,278	33,561	1,736	1,834	2,319	22,534	24,123	25,871	55,388	58,235	61,751	..	..	..
Transformer and Insulating Oils										327	366	336	..	..	..
Lubricating Oils in Small Packages										186	269	451	..	..	..
Total Lube Oils—Thousands of dollars										55,901	58,870	62,438	2,954	3,651	4,002

NORTH • EAST • SOUTH • WEST

Above is a Chicago station—one of the many Illinois stations equipped with *modern* Southwest Pumps.

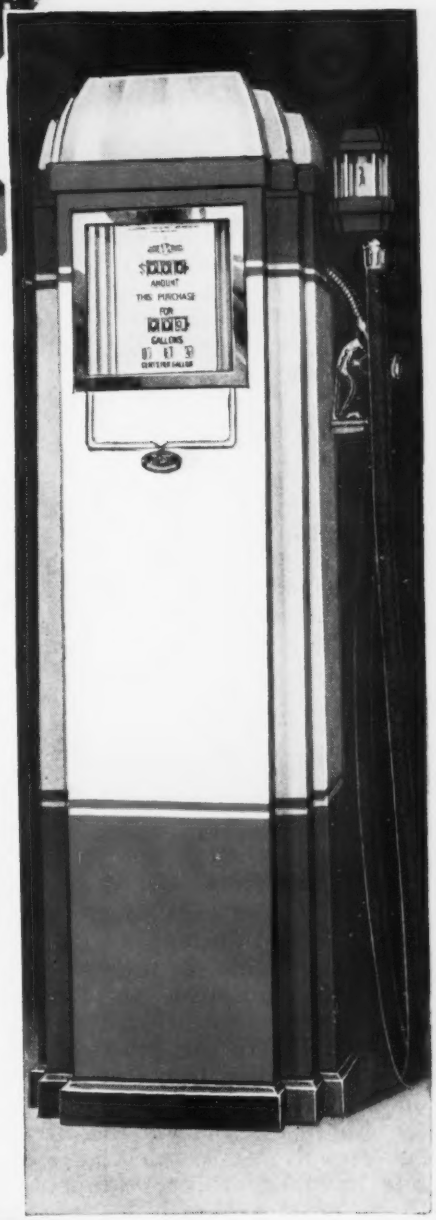
ILLINOIS STATIONS ARE GOING MODERN

WITH SOUTHWEST GASOLINE BUSINESS MACHINES

To Build Profits!

Southwest Pumps are giving dependable service—building profits—in *Illinois*. One Chicago operator says that Southwest Pumps were the only pumps he had that gave *unfailing service* in the bitter sub-zero weather this past Winter. You, too, can depend upon the performance of these *modern* pumps. Do as others are doing . . . *Go Modern*—wipe your islands clean of obsolete equipment *now* and replace with Southwest Gasoline Business Machines. Several models are available. Get the facts — learn how they'll help build profits for *you!*

WRITE TODAY!



Modern Southwest Pumps may be had in a variety of paint schemes and color combinations at the option of the purchaser. At the right is shown one paint scheme in red and white on Model 712-CS-G (with glass top and metal quick price change door).

SOUTHWEST PUMP CO.

MANUFACTURERS AND DESIGNERS • SINCE 1916

BONHAM — TEXAS

SOUTHWEST PUMP COMPANY,
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I am interested in PROFITS. Tell me about SOUTHWEST PUMPS.

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petroleum products. For 2 years Russia has furnished from 30 to 34 per cent of Spain's imports of lube oils against 28 per cent for the United States. Unavailability of figures segregated to show imports of lube oils into Portugal precludes any estimate of demand although a sizable market does exist as is evidenced by exports to Portugal from the United States increasing from 29,000 to 47,000 barrels between 1933 and 1935.

ACROSS the Mediterranean lies Egypt now requiring lube oil imports of around 170,000 barrels annually supplemented with a modicum of oils of domestic manufacture. American lube oils comprise roughly 20 to 25 per cent of total imports with shipments from Rumania twice as large. The Union of South Africa imports around 200,000 barrels of lube oils a year, over 60 per cent of which come from the United States. A considerable quantity of lube oils also enter Mozambique at Lourenco Marques destined for Transvaal for use on the Rand.

In the Western Hemisphere, the largest outlet for American lube oils is Canada. In 1934 that country supplemented 542,000 barrels of domestically produced lube oils with imports of 300,000 barrels, all but an insignificant portion of which came from the United States. During 1935 Canadian imports of lube oils increased to 378,000 barrels. Annual lube oils imports into Brazil average 200,000 to 225,000 barrels annually, nearly 90 per cent originating in the United States. In Argentina the demand for lube oils exceeds consumption in Brazil, but import requirements are smaller due to the growing domestic refining industry which operates to a substantial degree on supplies of indigenous crude petroleum. Although American oils have heretofore comprised the bulk of Argentina's lube oil imports the future of this trade is unpredictable in view of the recently organized government control of the petroleum industry and trade of that country.

Shipments to 6 countries in the Far East accounted for 17 per cent volume of all lube oils exported from the United States in 1935. India, largest buyer of the group took 404,000 barrels of American oils, 73 per cent of the total of lube oils imported into the country that year. Spindle or batching oils used in processing jute comprise nearly half of all the lube oils imported. Statistics are not available to indicate India's domestic production of lube oils though it is important as sufficient quantities of Burmese and Indian crudes are refined locally to yield a substantial volume of lube oils.

Domestic production of lubricants in Australia, China, New Zealand and the Philippines is negligible. American oils make up the bulk of imports, the proportion currently being 90 per cent in Australia, 85 per cent in the Philippines, 78 per cent in China and 70 per cent in New Zealand. In 1934 total imports of lube oils into Australia, China, the Philippines and New Zealand were respectively 330,000, 228,000, 72,000, and 69,000 barrels.

Japan, although able to obtain but 20 per cent or less of its crude requirements at home, has expanded refining capacity to produce at least 85 per cent of its lube oil consumption, thereby resulting in the local manufacture of lube oils dependent largely upon imported crude. Imports of lube oils, nearly 90 per cent of which originate in the United States amount to approximately 200,000 barrels a year.

While a hard and fast grouping is not possible, countries competing with the United States for international trade in lubricants may be segregated broadly as to those capable of producing lube oils from local deposits of petroleum in excess of domestic needs, those manufacturing lubricants from imported crude oils and engaged in treating and blending imported lube oils, and finally those carrying an almost purely re-export trade in lubricants. Russia foremost in the first group, increased lube oil exports from 1,743,000 to 2,155,000 barrels between 1933 and 1935 and during the same period shipments from Netherland West Indies rose from 670,000 to 1,375,000 barrels. Lube oil exports from Rumania, Mexico and Netherlands India remained practically stationary at roughly 416,000, 344,000 and 145,000 barrels respectively during 1933-1935. Between 1933 and 1935 Polish shipments of lube oils declined from 223,000 to 126,000 barrels.

In the second class Germany boosted lube oil exports to 652,000 barrels in 1935 a gain of 110,000 barrels over 1933. British foreign sales of lube oils at the same time increased from 452,000 to 491,000 barrels. In 1934 France exported 779,000 barrels of lubricants; during 1935 foreign shipments dropped to 505,000 barrels. Japan sold 90,000 barrels of lube oils abroad in 1935 against a lesser indeterminate quantity in 1933.

OF THE countries engaged primarily in the re-export and transit trade of appreciable quantities of lube oils, Belgium sold abroad 611,000 barrels in 1935, some 40,000 barrels under 1934. Danish re-exports of lube oils increased from 119,000 to 154,000 barrels between 1933 and 1935; those from the Netherlands averaged 3,500 to 4,000 barrels in 1933 and 1935, and for reasons unapparent, climbed to 46,000 barrels during 1934. Transit trade in lube oils through the ports of Belgium and the Netherlands, as well as via other countries, particularly the United Kingdom and Germany though not readily determinable yearly attains significant proportions.

Present competition from lube oil substitutes is negligible although the treating of used lube oils has attained appreciable proportions here and abroad. Though an increasing amount of gasoline and light fuel oils is being produced from coal by hydrogenation and carbonization, to date little progress appears to have been achieved in processing coal to yield lube oils. Experiments to this end being currently carried on in England and Germany indicate a more complete knowledge of the chemistry of lube oils is a prerequisite to the practical development of lube oil production from coal.

Little use so far has been made of vegetable oils for lubricating as they are said to be definitely inferior to petroleum lubricants. During the Great War aeroplane motors were lu-

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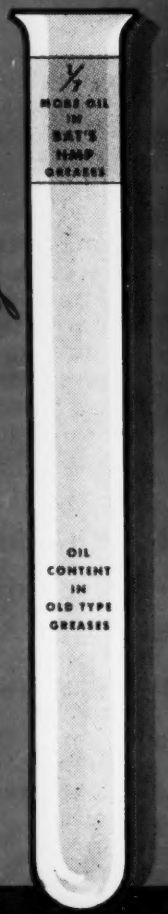
BAT'S H·M·P·GREASES HAVE 1/7 MORE OIL

Let us mail you a sample of Bat's H. M. P. Grease to compare with ANY old-fashioned grease of similar grade.

Put a small amount of each grease side by side. Have someone blindfold you Touch your index finger to each grade.

Now rub the index finger and thumb of each hand together lightly until the grease is spread evenly.

Notice how much smoother the H. M. P. grease feels, and how much longer the fingers of that hand remain oilier.



Business is Increasing

GREATER OILINESS REDUCES WEAR

It is self evident that in general the more lubricating oil present in a grease, the more efficient that grease will prove—both as a lubricant and as a wear-preventative. Wear, not use, destroys machinery!

"FOR SAFETY—SELL DRIVERS A GREASE JOB AT LEAST EVERY 1000 MILES"

BATTENFELD GREASE & OIL CORP.

KANSAS CITY AND MINNEAPOLIS

bricated to some extent with castor oil, and more recently have come reports indicating serious efforts to encourage the growing of castor beans and the setting up of factories to produce castor oil in Italy's African Colony of Libya and in Brazil. Olive oil has been tried as a lubricant in Tunisia, and from Cawnpore, India, it is reported that castor oil has been combined with mineral oils so as to produce effective lubricating oils. Aside from lacking the qualities necessary for satisfactory lubrication vegetable oils and vegetable oil blends frequently produce chemical reactions in contact with metals which injure machinery. A lubricant composed of 47.62 per cent petroleum, 47.62 per cent lime solution and 4.76 per cent nigrol, for which numerous advantages are claimed, is said to be in use in Russia.

The re-refining of lube oils is carried on more or less extensively in several countries. In Germany there are 125 plants having an annual treating capacity of 343,000 barrels and in Italy numerous small plants cooperate in carrying forward the State's policy of attaining the utmost utilization of lube oils.

Shipments of lube oils to foreign countries as compared with the value of exports of other petroleum products varied scarcely at all during 1933-1935. The value ratio of lube oil exports to exports of all petroleum and products was 25, 26 and 25 per cent respectively during 1933, 1934 and 1935. The proportion by value of lube oil foreign shipments to exports of refined oils was 37 per cent for each of the last 3 years.

As to the future trend of lube oil exports, a substantial demand for American lube oils will likely persist even if refining facilities outside the United States expand sufficiently to displace an appreciable proportion of the other refined oils exported from this country. Many years effective selling in foreign markets plus a world wide system of distribution, back of which stand plentiful supplies of crude well suited to lubricant production and over a half century of experience in manufacture would seem to assure American oils sustaining a preeminent position in the international trade in lube oils.

TABLE II

World Imports of Lube Oils, 1933-1935

(In Thousands of Barrels)

Countries	Total Imports 1933	U.S.A. Share 1933	Total Imports 1934	U.S.A. Share 1934	Total Imports 1935	U.S.A. Share 1935
United Kingdom	2,930	1,934	2,956	1,764	2,872	1,746
Germany	1,935	885	2,254	970	3,062	1,295
Belgium	1,329	576	1,310	684	1,165	727
France	1,383	1,097	1,083	896	738	564
British India	567	402	536	368	549	404
Italy	468	370	460	362	580	.....
Netherlands	508	122	370	126	404	134
Australia	362	337	275	260	331	307
Yugoslavia	102	.....	121	.....	123	.....
Denmark	299	168	340	165	305	.....
Sweden	294	.....	339	.....	355	.....
Canada	282	279	304	298	378	376
China	268	203	270	228	249	209
Brazil	195	176	219	196	.....	.....
Spain	176	67	217	61	274	72
Union of South Africa	154	102	199	133	201	.....
Switzerland	137	59	145	40	156	.....
Egypt	136	33	127	24	170	36
Manchuria	125	.....	115	34	155	41
Argentina	122	.....	126	.....	114	.....
Czechoslovakia	109	38	141	58	121	.....
Algeria	107	.....	88	.....	.....	.....
Japan	96	86	156	145	187	.....
Norway	92	37	76	24	.....	.....
British Malaya	83	31	97	39	88	32
New Zealand	72	.....	69	.....	73	.....
Irish Free State	66	3	67	8	62	.....
Philippines	66	59	72	56	71	60
Finland	65	6	85	10	90	.....
Hong Kong	53	35	57	30	55	28
Netherland India	51	38	55	43	51	39
French Morocco	48	22	41	20	.....	.....
Greece	41	23	53	31	91	62
Austria	42	29	39	28	44	31
French Indo-China	41	18	30	19	.....	.....
Siam	35	6	32	8	28	10
Tunisia	33	22	29	20	.....	.....
Chile	37	28	51	37	70	50
Venezuela	28	16	21	13	.....	.....
Iraq	26	.....	22	.....	28	.....
Cuba	24	23	38	37	48	.....
Bulgaria	22	.....	62	.....	.....	.....
Estonia	18	6	16	7	.....	.....
Lithuania	18	.....	18	.....	.....	.....
Ceylon	19	9	26	11	23	8
Palestine	17	3	24	7	.....	.....
Hungary	17	7	17	7	21	9
Syria	20	5	15	5	.....	.....
Turkey	.....	.....	45	7	68	17
Other British South Africa	12	7	17	10	.....	.....
Gold Coast	11	7	14	10	.....	.....
Nicaragua	9	8	9	8	.....	.....
Guatemala	8	4	3	3	.....	.....
Bolivia	8	.....	.....	.....	.....	.....
Latvia	8	4	8	4	8	4
Panama	7	6	3	3	11	10
Mozambique	7	.....	5	.....	.....	.....
French Oceania	6	.....	7	.....	.....	.....
British East Africa	5	3	7	5	.....	.....
Ecuador	6	6	6	5	6	6
Dominican Republic	6	.....	8	.....	.....	.....
Haiti	2	2	3	2	3	2
Albania	2	.....	.....	.....	.....	.....

Statistics from the official trade returns of foreign countries.

United Building New Boiler Unit

WARREN, Pa., Aug. 27. — Construction of a new boiler unit by the United Refining Co. has been started. The new boiler capacity will produce 120,000 pounds of steam per hour and is expected to be in operation by about Nov. 1.

This addition to plant facilities follows the installation of a new cracking unit recently, and the erection of more than a million gallons of additional oil storage capacity. The new cracking unit increases the cracking capacity of the United refinery to three times its former capacity.

Start this money-maker selling for you

In less than 30 days, many service stations have put the Exide Automatic Vendor to work making battery sales . . . . automatically!

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★ It displays side by side the batteries that fit a particular car.

★ Shows the original equipment size.

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★ Describes the service for which each battery is built, enabling the customer to make a sensible choice.

★ Compares them on the basis of cranking ability, life and price.

★ Shows by direct comparison the greater values in the better grades of Exide.

FREE! For a limited time only

For a limited time, Exide Automatic Vendors will be given free with the purchase, at new low prices, of the batteries they display. One Vendor features batteries for Chevrolets, Plymouths and others—the second covers Fords, Terraplanes and additional makes. These two Vendors cover 86% of the car market.

Get in touch with us today

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Exide AUTOMATIC VENDOR

(*Continued from page 24*)

type of language that will be understandable to the car owner and safe for the Oldsmobile service department.

Hudson and Terraplane, who last year swung over to hypoid rear ends, at that time specified a saponifiable, free sulfur base lubricant. For 1937 this company is planning to recommend a lead base E.P. lubricant for its hypoids. Minds are unsettled and uncertain.

On all models except the low priced Terraplane, a new split manifold and dual carburetion will be used, which it is said will develop 10 per cent greater fuel economy for the 1937 Hudson and Terraplane jobs.

These cars will continue with the same front spring suspension as used in 1936, with radius arms connecting the front axle and frame side rails. The finger-tip transmission shift control, known as the electric hand on Hudsons and Terraplanes, will be offered optional on these models again for 1937. It is reported that other cars will also use this device, or a similar one, on models soon to appear.

Hudson officials report that about 56 per cent of the 1936 Hudsons and Terraplanes sold were equipped with electric hands, and that in some localities the percentage so equipped went as high as 90.

The 1937 models of the Hudson family will be announced before Oct. 15, barring acts of God, and changes of mind.

With the possible exception of Studebaker, the subject of oil filters is still a debatable one. A General Motors engineer expressed his opinion this way. Under clean driving conditions, he states, oil will run clean without the aid of a filter, and under dusty and dirty conditions the oil filter will not prevent oil from getting dirty, for the dirt will enter through the crankcase ventilating system. Between these two points of clean and dusty operation there is a place where the oil filter fits in, according to this engineer. Just where that point is, no one has been able to definitely prove, says he. He contends that an effective air cleaner does more good. Minds are unsettled and uncertain.

At present only the highest priced Buicks and Cadillacs are equipped with oil filters in the G.M. line.

Hupmobile, still in process of reorganization after a year of it, is understood to have promised a 1937 car by show time. Willys, whose operations for the past year have been under the jurisdiction of the federal court because of bankruptcy, has so pleased that body with its 1936 showing, that it has been permitted to go ahead with production plans for 70,000 models for 1937.

The new Willys, it is reported, will be a larger car, with a roomier body and standard tread width.

The fact that this is a presidential year has certainly not concerned the automobile industry from the standpoint of production. Plans for a still more profitable year are confidently being laid for 1937. Whether the wind blows for Landon or for Roosevelt, the new president will without a doubt be able to smile on the automobile industry with pride, and exclaim, "Look! See What I Did."

To Ask Return of Money Diverted from Roads

By Teletype

MILWAUKEE, Sept. 9.—The Wisconsin Petroleum Association is preparing a legislative proposal asking immediate repayment into the Highway fund of all money borrowed for other purposes, according to Roy L. Brecke, executive secretary.

The expenditure of motor tax revenues exclusively for highways to create jobs and to prevent accidents will be sought in the coming session of the state legislature which convenes in January.

Brecke declared that the original purpose of the gasoline tax and other highway funds, and the obligation to the motorist to use the revenues for highways and consequent employment should be recognized and the diversion of these funds stopped.

"Highway work provides the best form of work relief", Brecke said, "with 90 cents of every dollar going into wages.

"If we don't need all the income from motor taxes, that is the 4-cent state and 1-cent federal gasoline tax besides license fees, let's give it back to the motorist where it belongs by reducing the gas tax and other exorbitant taxes on the motorist and then if necessary levy general relief taxes which affect all taxpayers equally".

Gasoline Prices Brought To Normal in 5 States

CHICAGO, Sept. 9. — Marking the second step in straightening out of retail structures prior to the completion of the leasing out of all retail outlets, Standard Oil Co. of Indiana today restored so-called normal prices throughout five states in its territory.

On Sept. 4 the company reduced all "normal" prices 0.3c on gasoline and 0.9c on kerosine, and on Sept. 9 all service station gasoline prices in Indiana, Missouri, Minnesota, North and South Dakota, and Wisconsin which had been subnormal were advanced to normal levels which were established on Sept. 4.

The only exceptions to the Sept. 9 restoration were several Indiana towns adjacent to metropolitan Chicago "where competitive conditions will not now permit," according to the company's announcement.

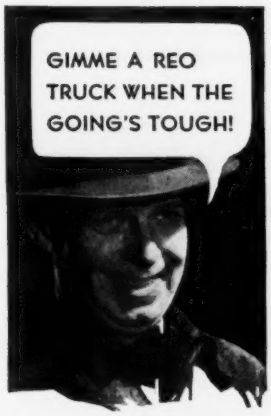
The only division point affected was Milwaukee, where gasoline prices were advanced 0.7 cent to the so-called normal.

Franklin Heads Committee

DETROIT, Mich. — Wirt Franklin, president of Wirt Franklin Petroleum Corp., of Ardmore, Okla., has accepted the position of chairman of the National Executive Committee of the First International Consumers Petroleum Exposition to be held in Convention Hall, Detroit, Mich., Dec. 5 to 13, inclusive. Mr. Franklin was chairman of the Planning and Co-ordination Committee in Washington, D. C., the code authority for the entire petroleum industry under the NRA. He organized the Independent Petroleum Association of America.

TOUGH TRUCKS ARE SAFE TRUCKS

FOR OWNER AND DRIVER



Reo Speedwagons and Trucks range from ½ to 4-6 tons. Chassis prices from $445 up, f. o. b. Lansing, plus tax. *½-ton chassis, f. o. b. Lansing, plus tax.

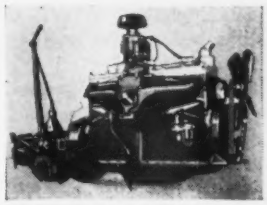
ASK fleet owners or drivers of Reo Trucks what they think of Reo safety and Reo's *plus* margin of strength and durability.

They are in unanimous agreement: Reo is "AMERICA'S TOUGHEST TRUCK"! This is a remarkable tribute to faultless performance under severe hauling conditions.

Reo engineers have overlooked nothing that could add stamina or economy to truck operation. Chassis are designed to carry peak loads over the roughest roads. The famous Gold Crown and Silver Crown truck engines of chrome nickel have sturdy Lo-Ex aluminum pistons and valve seat inserts. Seven-bearing crankshafts and 4-speed transmissions insure long life and flexibility. Positive hydraulic brakes provide an additional safety factor.

Now at Reo's new all-time low prices, Reo's 15 truck superiorities are available to every business. Be sure to check Reo features and Reo *guaranteed performance* before you buy any new truck.

Climbing grades up to 45%! Two Reo trucks, loaded to full rated capacity, climb Stone Mountain over rocks and boulders.



All Reo Speedwagons and Trucks are powered with rugged, economical, Reo-built Gold Crown or Silver Crown truck engines. For 1936, these famous motors have been made even more efficient.

America's Toughest Truck!

In repeated tests, a 1936 Reo 2-3 Ton Truck, equipped with the Reo Gold Crown Engine, pulled an 80-ton load without laboring!

REO SPEEDWAGONS AND TRUCKS

• MARKETS •

CLEVELAND, Sept. 8

EMPHASIZING the vulnerable position of oil markets generally, service station and/or tank wagon prices of gasoline and kerosine were cut 0.3 cent and 0.9 cent, respectively, in 10 middle western states the first week of September. Coming as it did just before the holiday week end, the reduction reflected the seriousness of the recent steady decline in tank car prices.

While there were no further reductions in tank car gasoline prices noted in oil markets last week, the industry's price structure remained in a precarious position as traders became more alarmed at the high rate of crude runs and the top-heavy inventories of gasoline. Some market observers were predicting further reductions as soon as the holiday was over. As this is written, word comes of reductions in some grades of gasoline in the Mid-Continent and Mid-Western markets.

In some quarters the widespread reduction in so-called normal gasoline prices by Standard of Indiana caused some surprise. Not since February of last year had the Indiana company made a reduction in gasoline prices throughout its territory. Since that time reductions had been made only at local points as deemed necessary by the company to meet competition.

On the other hand, some observers were fully aware that the recent reductions in tank car prices had served to increase "undercover" retail price cutting. In some areas, retail or tank wagon prices had been so much below so-called normal that the reductions were not actually effective.

Blame for the recent downward trend in gasoline prices was credited to the high rate of crude runs. Supplies of gasoline have been out of line even with the increased consumption which each month so far this year has exceeded last year's record.

The unfavorable position of gasoline inventories can best be seen by comparing figures at the end of August with the figures of a year ago. On Aug. 29, according to the American Petroleum Institute's estimate made on a Bureau of Mines basis, stocks of finished and unfinished gasoline were 60,433,000 barrels or 8,733,000 barrels above actual stocks as reported to the Bureau of Mines on Aug. 31, 1935. This means that the industry went into September with 11 per cent more gasoline in storage than it had on Sept. 1 last year. Since the Bureau of Mines has estimated demand in September will exceed last year's by 13 per cent, some of the excess could be liquidated without undermining the price structure if refiners would curtail their crude runs only a relatively small amount.

In the face of reports which failed to indicate that rude runs have been curtailed to any extent but did indicate an inclination to liquidate stocks, even at sacrifice prices, before the seasonal drop in consumption, many observers were "bearish" on the market last week. They granted that the retail reduction in the middle west had already been discounted, but they did not and would not discount the fact that there was too much gasoline on hand.

Gulf suppliers were awaiting with considerable interest the opening of bids on the inquiry for two cargoes of gasoline for shipment to Argentina. It was the first spot inquiry received for some time from a foreign source. Othwise the Gulf market was quiet, with interest centering on burning oils.

Natural gasoline prices moved up 0.25 cent in the face of easing refined gasoline markets. Demand remained steady despite the fact some refiners were inclined to cut down the use of natural as prices rose. Offerings of natural, however, still were fairly scarce. Most manufacturers reported they were sold up.

Kerosine markets were chaotic, with price trends unfavorable from the refiners' standpoint. Jobber buying was reported on the increase in some areas. Stocks generally appeared in better shape. At the same time, tank car prices were reduced 0.125 to 0.625 cent at the principal markets along the eastern seaboard. The cuts were initiated by Standard of New Jersey. The largest reduction was made at Charleston, S. C., while the smallest decline was at Providence, R. I. Most suppliers along the seaboard met the lower prices posted by the Jersey company.

At about the same time, Standard of Indiana made its cut in kerosine prices, which was the first territory-wide cut made by that company in kerosine since 1931. Tank car prices in the Mid-Western and Mid-Continent markets were not outwardly affected by the tank wagon cut.

N. P. N. Gasoline Index

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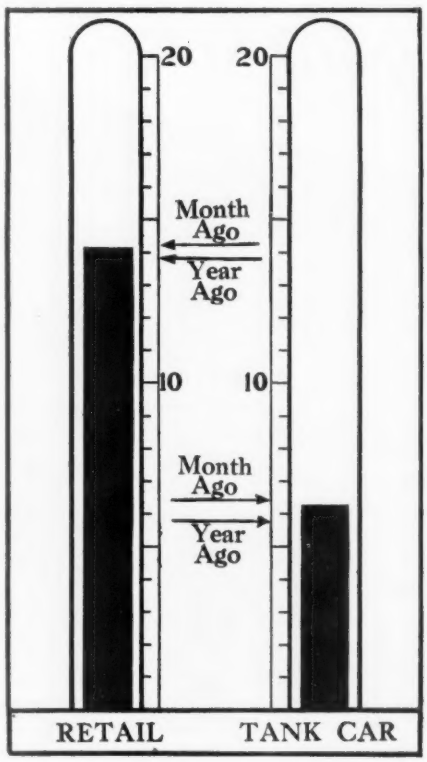


Retail index is an avearge of 50 cities, ex-tax, and tank car is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following price in cents per gallon:

	Retail	Tank Car
Sept. 8	14.11	6.30
Month ago	14.20	6.40
Year ago	13.68	5.83

Globe to Market Pennsylvania Oil

CHICAGO, Sept. 8.—Globe Oil & Refining Co. has taken over the exclusive distribution of Sterling motor oil, a Pennsylvania product, in Kansas, Nebraska, South Dakota, Minnesota, North Dakota, virtually all of Iowa, the northwestern portion of Wisconsin, and the northwestern quarter of Missouri.

Mid-Continent

Gasoline Unsettled

TULSA, Sept. 5

THE Mid-Continent gasoline market was unsettled the first week in September, despite active pre-holiday business.

Retail reductions in the Indiana Standard territory, excessive gasoline stocks and the prospect of declining gasoline consumption were factors that overshadowed the market.

Most refiners believed the retail cut in the Standard of Indiana territory had been discounted in the Mid-Continent. The reductions in tank car gasoline prices widened the jobber margins, and resulted in price cutting at some points. Indiana Standard, according to its announcement, reduced retail prices to meet competition.

Top-heavy stocks at some Mid-Continent refineries have unsettled the tank car gasoline market. Small refiners in the Mid-Continent were beginning to push sales in an effort to reduce stocks to a more economic level.

The pre-holiday demand, to some refiners, represented an outlet for excess gasoline. In their efforts to dispose of gasoline, some refiners resorted to price cutting. Occasional reports of reduced prices were encountered from Oklahoma and some parts of Texas and Louisiana although volume available at lower prices was not large. Most refiners, since present prices offer only a narrow margin of profit, stuck to current quotations.

Offerings of "no octane" gasoline from Rodessa were more prominent the past week. This product was available at 4.25 cents f.o.b. plant, compared with 4.75 cents for full specification gasoline.

Only occasional cars of East Texas gasoline were available for outside the state. Output of most plants continued to move locally or to the Gulf Coast. Some refiners were shipping into the southeast, although volume was not large. Two hundred cars of 400 e.p. gasoline moved to the Gulf Coast. Reports indicated the gasoline was to be reformed and shipped to the east coast.

The low octane gasoline inquiry placed in East Texas late in August by a Kentucky refiner apparently has been covered. Details as to price and seller could not be obtained. Several refiners, however, bid 4.75 cents, f.o.b. plant, for the business.

Unsteadiness of refined gasoline failed to disturb the upward trend of the natural gasoline market. Early in the week, a 0.25-cent advance was made in Grade 26-70 prices. The advance in prices, bringing Grade 26-70 up to 4.25 cents in Oklahoma and 4 cents in Texas, held throughout the week. Manufacturers had little material to sell in the open market the past week.

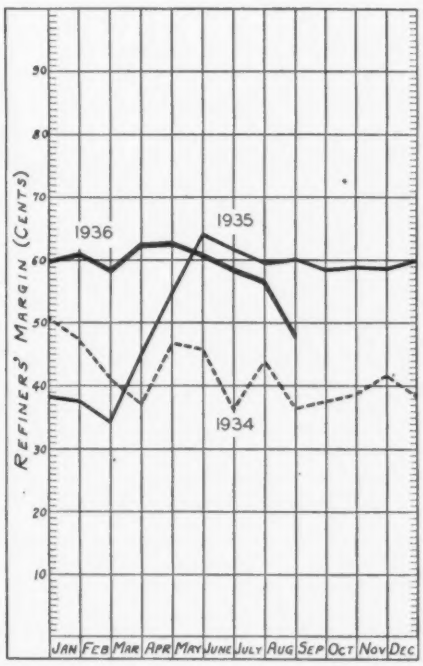
Higher prices for natural in the face of reduced refined gasoline prices caused some refiners to curtail the use of natural gasoline. Shipments of natural, however, indicated that curtailment was not general.

Kerosine was more active the past week. Jobber business increased as plowing activity started in some sections. Much of the jobber buying was in anticipation of increased consumption, although some orders were placed to fill current needs. Prices so far have not reflected the buying of the past week, although offerings were fewer.

Purchases of Mid-Continent bright stock for export shipment were heavy the past week. Asked if current buying was the result of unsettled political conditions in Europe, most refiners answered in the negative. Domestically, the bright stock market was not active. Inventories were described as comfortable by most refiners. Neutral oils were unchanged.

Wax continued to get good play from eastern buyers. Supplies in the Mid-Continent were well held.

N. P. N. Refinery Index



Refinery Index is the calculated average return from refining a barrel of 36 gravity Mid-Continent crude. The index this month indicates the following margins in cents per barrel between cost of crude and selling price of products (See N.P.N., Aug. 28, 1935, page 26):

Date	Margin
Sept. 1	47.9
Month ago	56.5
Year ago	60.1

Pennsylvania

Price Trends Mixed

CLEVELAND, Sept. 5

PRICE trends were mixed in the Pennsylvania market despite a fairly active demand the week prior to the holiday. U. S. Motor gasoline sold at lower prices while 36-40 fuel oil and kerosine or burning oil blends were steady to higher. The status of lubricating oils was unchanged.

While offerings of U. S. Motor generally were not excessive, some refiners began selling at slightly lower prices. At the same time, the approach of the fall plowing season and heating season increased buyer interest in kerosine and kerosine-distillate.

Prices on the higher octane gasolines were not affected by the reduction in U. S. Motor prices. Most reports indicated that the minimum 65 octane grade was moving well at 7.25 cents. A few cars were reported to have been sold 0.125 cent lower but these reports were not confirmed. Demand for 65 octane apparently still was about in balance with supply.

The position of kerosine was greatly enhanced by the steady increase in demand for kerosine-distillate and burning oil blends. Approach of the fall plowing and heating seasons was largely responsible for the increased demand.

With supplies of kerosine diminishing, there was some talk of higher prices. Tank car prices were reduced 0.25 to 0.625 cent along the eastern seaboard, and tank wagon prices were cut 0.9 cent in the middle west. Pennsylvania refiners who had advanced their prices, or were about to do so, changed their position. As the week ended 45 water white kerosine was freely available at 4.625 cents.

Fuel oil prices were advanced 0.125 cent in the Bradford-Warren district, placing them on a parity with prices in the lower field. Demand was active, and offerings were well held throughout the field. With predictions indicating an increase of industrial activity after the holiday, the recent good demand for 36-40 fuel was expected to continue.

While jobber buying of bright stock remained slack, several inter-refinery transactions were reported. It was indicated that the oil sold was destined for foreign consumption. Many traders believed that the steady demand for Pennsylvania bright stock from foreign countries was a direct result of the unsettled conditions on the Continent.

Neutral oils remained firm, with offerings fairly scarce.

Wax prices moved up slightly as seasonal demand got under way.

Chicago

Gasoline Steady

CHICAGO, Sept. 5

OVERSHADOWING all other developments in the Mid-Western market the first week of September was the announcement of a general reduction in gasoline and kerosine prices by S. O. Indiana.

The reduction came as a surprise to most traders here. And while it occasioned only mild concern, nevertheless, it represented a change from the trend which has dominated tank-wagon markets for more than a year. This reduction was the first general cut in gasoline prices since Feb. 2, 1935, when the company made its last general reduction. Since that time reductions have been confined to local or statewide markets.

A check of records also shows that kerosine prices have not moved downward in a territory-wide cut since 1931, although competitive conditions and freight rate changes have resulted in many local reductions since that time.

Effect of the Sept. 4 reduction was hardly discernible in the Mid-Western tank car market last week. The tank car market in recent weeks had already discounted this cut, according to traders. A check of Mid-Western tank car prices shows that current gasoline quotations are 0.375 cent below their 1936 high. Kerosine quotations are approximately 1.375 cents lower than this year's high.

Improvement in gasoline late in August did not carry over into the first week of September. Offerings of gasoline uncovered over the weekend resulted in slightly lower opening quotations Monday, Aug. 31. Offerings of extremely low octane gasoline, not generally considered representative third grade material, were made at as low as 4.25 cents. Occasional reports of higher octane gasoline being offered at 4.5 cents were heard, but they could not be substantiated.

Supplies of the 63-67 and 68-70 octane grades did not appear to be burdensome last week. Buying orders kept a fairly even pace with offerings.

Reports persisted all week among buyers and sellers here that some refiners in the southwest showed an inclination to liquidate present gasoline stocks at under current quotations. These reports centered on 68-70 octane gasoline. However, actual sales or offerings at lower prices could not be confirmed. Small-lot purchases generally were at 5.5 cents for the high octane grade.

Kerosine received a little better play most of the week, and despite the 0.9-cent reduction in retail prices, tank car markets were steadier late in the week than had been the case for some time. Several sellers reported they were not pushing kerosine and were holding all sales to a minimum of 3.125 cents. Other sellers asked a minimum of 3 cents.

The gradual tightening of No. 1 fuel oil was being felt in the kerosine market, sellers agreed. With prices at a parity, and with distillate prices tending higher, kerosine also was in better position.

Eastern

Kerosine Prices Down

NEW YORK, Sept. 5

REDUCTIONS of 0.125 to 0.625 cent in tank car and barge prices of kerosine were the principal market changes of the week ended Sept. 5 at eastern seaboard terminals.

The cuts were initiated Sept. 1 by Standard Oil Co. of New Jersey and Colonial Beacon Oil Co., one of its subsidiaries, in their marketing territories which cover the seaboard from Charleston, S. C., north into Maine. The smallest reduction was 0.125 cent at Providence and the largest was 0.625 cent at Charleston. A new tank car price of 4.625 cents was established at all seaboard terminals of the two companies.

The reductions were met on Sept. 2 by Socony-Vacuum Oil Co. and other large and small distributors. Leading distributors in the Philadelphia district reduced their kerosine prices to 4.75 cents for tank car delivery. The reductions made along the seaboard brought the Standard's price down to a competitive basis at most terminals, but at New York harbor, some suppliers were willing to sell at 4.25 cents. However, several suppliers reported late in the week that there was very little of the 4.25-cent kerosine left on the market and indications were that prices would be advanced at least 0.125 cent shortly.

Gasoline demand was reported excellent at eastern terminals, although it slowed down considerably late in the week, when distributors appeared to be pretty well stocked for the holiday trade. Traders generally predicted that consumption over the week-end would probably reach an all-time peak if weather conditions remained favorable.

Gasoline prices generally were unchanged throughout the week both in the tank car and the barge markets. Retail markets were reported steadier at many points, particularly in metropolitan New York City, where station prices were more uniform than for several weeks past.

California

Crude Market Tight

LOS ANGELES, Sept. 4

BELIEF that the era of low-priced California crude oil has definitely passed and that a period of advancing prices is approaching has caused producers in recent months to demand premiums ranging from 15 to 30 cents a barrel, taking into account the gravity of the oil.

In the past, premiums have been paid only on spot purchases and contracts have usually been based on present or future posted prices. However, one leading independent refiner, with a plant in the San Joaquin Valley, was reported the past week to be signing five-year contracts calling for premiums as high as 20 cents a barrel over the present posted price schedule.

Early in the week, nominal tank wagon quotations on major company third grade and independent competitive brands of gasoline were nearer actual prices paid than at any other time in recent months. Bulk deliveries of these products were quoted at 13 cents a gallon inclusive of 4 cents tax, and only a limited quantity was believed available at less than this figure.

Unbranded gasoline was nominally quoted at 12 cents a gallon at the rack, or 12.25 cents for bulk deliveries. However, as the week ended, the fact that more "bootleg" and no-brand gasoline was retailing at 12.5 cents a gallon in highly competitive districts indicated that many suppliers were making concessions or secret rebates from the nominal tank wagon price. Some of this unbranded gasoline was reported to be major company products that had been sold at low prices, under long-term contracts, to commercial accounts and resold by them to cut-rate distributors.

Independent refiners had less difficulty than a month ago in securing supplies of natural gasoline, but quotations on this product remained unchanged at 7.75 to 8 cents a gallon.

Fuel oil remained generally steady although a slight recession was noted in some parts of the Valley, where small quantities were available at $0.70 a barrel at independent plants. The general range, however, in that district was from $0.725 to $0.75 a barrel.

Kerosine-distillate advanced approximately 0.25 cent a gallon, the range in the Valley being 2.75 to 3 cents a gallon at independent plants and 4 to 5 cents a gallon at major company plants.

A slight increase was noted in the number of inquiries received from foreign buyers but Pacific Coast seaboard markets were inactive. Sup-

pliers in most instances were unwilling to accept prices offered, believing that sales could be made on more advantageous terms later in the year.

Coastal

Market Quiet

NEW YORK, Sept. 5

GULF COAST markets were quiet during the week ended Sept. 5, traders reported, and no open market cargo sales were consumated.

Traders were waiting with considerable interest the opening of bids on the two cargoes of 68 octane gasoline for shipment to Argentina. The bid opening is due about Sept. 7. The inquiry came into the market late in August and attracted quite a bit of attention, it being the first open export inquiry received for some time.

Otherwise there was little life in the export gasoline market and prices remained largely nominal at 5.25 cents for U. S. Motor and 5.5 cents for 64-66, 375 e.p. gasoline. Export inquiry for other products also was light.

Kerosine and light fuel oil markets were receiving considerable attention as the northern heating season neared, but, as in the previous week, activity apparently was confined to inquiries. Several traders said that no cargoes of kerosine were now available at under 3.75 cents, f.o.b. the Gulf, while, others indicated that 3.625 cents could be done.

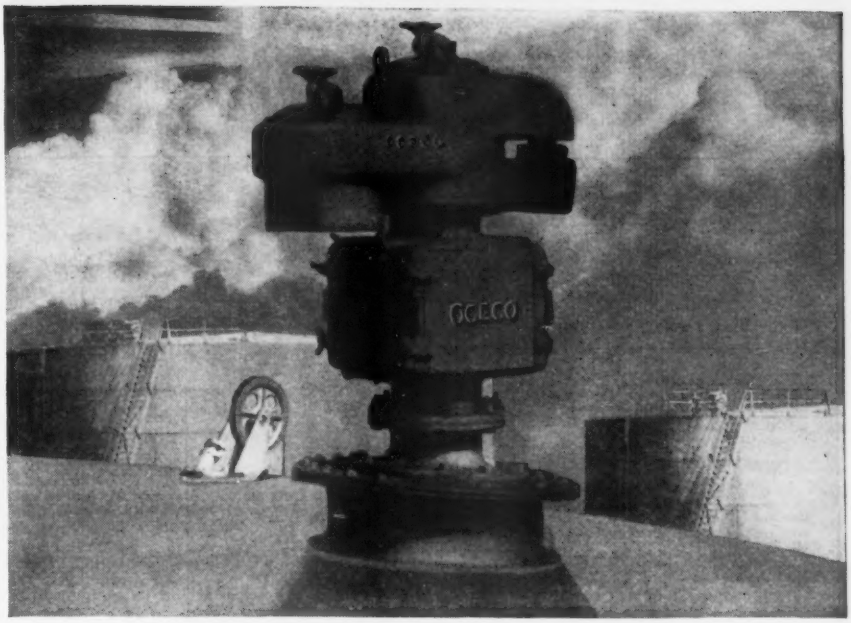
Traders were keeping a close watch on the bunker oil market. Cargoes available for prompt shipment were scarce. Most suppliers said they had no oil to offer in the open market and were hard pressed to obtain enough to take care of their own regular requirements. Quotations for Bunker C remained nominally at $0.85 a barrel, f.o.b. the Gulf.

Wax

Scale Unchanged

NEW YORK, Sept. 5.—Crude scale wax prices showed little change in the New York and New Orleans markets during the week ended Sept. 5. Traders reported sales, both for domestic and export shipment, at the same schedule of prices that prevailed in the previous week. Some said the market was considerably more active during the first few days of the week than towards the end, but this was considered natural by most traders due to the week-end holiday.

The market for fully refined wax still maintained the same position as has prevailed for several months. Demand was moderately active.



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THE wide acceptance Oceco conservation systems enjoy in both hemispheres instantly identifies their dependability and utility. Oceco systems combine maximum conservation of gases with maximum safety for the tank and its contents.

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REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

Oklahoma	**Sept. 8**	**Aug. 31**	**Aug. 24**
48-54, 450 e.p. naphtha	*4.625– 4.75	4.625– 4.75	4.625– 4.75
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.625– 4.875	4.75 – 5.00	4.75 – 5.00
63-67 octane.....	5.00 – 5.50	5.125– 5.50	5.25 – 5.625
68-70 octane (regular).	5.625– 5.875	5.625– 5.875	5.875– 6.00
60-62, 400 e.p. gasoline	4.625– 5.00	4.75 – 5.00	4.75 – 5.00
64-66, 375 e.p. gasoline	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
68-70, 350-360 e.p. gasoline.....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25

Nominal.

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
52-54 naphtha.....	5.50 – 5.625	5.625– 5.75	5.625– 5.75
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.75 – 5.875	5.75 – 5.875
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	6.00 – 6.125	6.00 – 6.125
68-70, 350-360 e.p. gasoline.....	6.125– 6.25	6.25 – 6.375	6.25 – 6.375
Other districts:			
52-54 naphtha.....	5.50 – 5.625	5.625– 5.75	5.625– 5.75
54-56 naphtha.....	5.625– 5.75	5.75 – 5.875	5.75 – 5.875
Motor gasoline:			
U.S. Motor (58-62°)	5.625– 5.75	5.75 – 5.875	5.75 – 5.875
Minimum 60 octane	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Minimum 65 octane	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.875– 6.00	6.00 – 6.125	6.00 – 6.125
68-70, 350-360 e.p. gasoline.....	6.125– 6.25	6.25 – 6.375	6.25 – 6.375

California (3c tax to be added to prices if used in state)

54-58 U.S. Motor, 437 e.p. for in-state shipment.....	8.00 – 8.50	7.75 – 8.25	7.75 – 8.25
54-58, U.S. Motor, 437 e.p. for outside state shipment.....	8.00 – 8.50	7.50 – 8.25	7.50 – 8.25
58-61, 375-400 e.p. gasoline, 65 octane and above.....	8.25 – 9.00	8.00 – 8.75	8.00 - 8.75

†***North Texas*** (F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.625– 4.75	4.75 – 4.875	4.75 – 4.875
63-67 octane.....	5.125– 5.25	5.125– 5.375	5.25 – 5.375
68-70 octane (regular).	5.625– 5.875	5.75 – 5.875	5.875– 6.00
60-62, 400 e.p. gasoline	4.75 – 4.875	4.875	4.875
64-66, 375 e.p. gasoline	5.00	5.00	5.00 – 5.125
68-70, 350-360 e.p. gasoline.....	5.00 – 5.125	5.00 – 5.125	5.125– 5.25

Kansas (F.o.b. refinery, Kansas destination)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.875– 5.00	5.00 – 5.125	5.00 – 5.125
63-67 octane.....	5.375– 5.50	5.625– 5.75	5.625– 5.75
68-70 octane (regular).	6.00 – 6.125	6.125– 6.25	6.125– 6.25
60-62, 400 e.p. gasoline	4.875– 5.125	5.00 – 5.125	5.00 – 5.125

†***West Texas and New Mexico*** (F.o.b. W. Texas and N. Mex. refineries for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.625– 4.75	4.75 – 4.875	4.75 – 5.00
63-67 octane.....	5.125– 5.25	5.125– 5.25	5.50 – 5.625
68-70 octane (regular).	5.75 – 6.00	5.75 – 6.00	6.00

†***East Texas*** (F.o.b. East Texas refinery for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75	4.75	4.75
60-62, 400 e.p. gasoline	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875

North Louisiana (For Louisiana and Arkansas destination)

U. S. Motor gasoline:			
62 octane and below..	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
63-67 octane.....	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
68-70 octane (regular).	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

	Sept. 8	**Aug. 31**	**Aug. 24**
Arkansas (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline:			
62 octane and below..	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
63-67 octane.....	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
68-70 octane (regular).	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Ohio (Quotations of S. O. Ohio. Delivered any point in Ohio).			
U. S. Motor gasoline..	8.375	8.375	8.625
Above 65 octane no.	8.625	8.625	8.875

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas or Kansas).

F.o b. Group 3			
Grade 26-70.....	4.25	4.25	4.00
F.o.b. Breckenridge			
Grade 26-70.....	4.00	4.00	3.75
California (F.o.b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending.....	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00

Kerosine

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
45 w.w. kerosine.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
46 w.w. kerosine.....	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
47 w.w. kerosine.....	4.875– 5.00	4.875– 5.00	4.875– 5.00
Other districts:			
45 w.w. kerosine.....	4.625– 4.75	4.625– 4.75	4.625– 4.75
46 w.w. kerosine.....	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
47 w.w. kerosine.....	4.875– 5.00	4.875– 5.00	4.875– 5.00
Oklahoma			
41-43 w.w. kerosine...	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
42-44 w.w. kerosine...	3.125– 3.375	3.125– 3.375	3.125– 3.375
Kansas (F.o.b. refinery Kansas destination)			
41-43 w.w. kerosine...	3.375– 3.50	3.375– 3.50	3.375– 3.50
42-44 w.w. kerosine...	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625

†***North Texas*** (F.o.b. Wichita Falls district or shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

41-43 w.w. kerosine...	3.125– 3.375	3.125– 3.375	3.375– 3.50

†***East Texas*** (F.o.b. East Texas refinery for unrestricted shipment)

41-43 w.w. kerosine...	*3.125	*3.125	*3.00 – 3.125

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)

41-43 w.w. kerosine...	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875

Arkansas (For Arkansas and Louisiana destination)

41-43 w.w. kerosine...	*4.00 – 4.25	*4.00 – 4.25	*4.00 – 4.25

*Only one refiner quoting.

California (F.o.b. California refineries)

38-40 w.w. kerosine...	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00

Gas *and* Fuel Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Bradford-Warren:			
36-40 fuel oil.....	4.25 – 4.375	4.125– 4.25	4.125– 4.25
Other districts: (Excluding Pittsburgh District Prices)			
36-40 fuel oil.....	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
Oklahoma (F.o.b. Oklahoma refineries)			
No. 1 white fuel oil...	3.00 – 3.125	3.00 – 3.125	2.875– 3.125
No. 1 straw fuel oil...	2.875– 3.00	2.875– 3.00	2.75 – 3.00
No. 2 straw fuel oil...	2.875– 3.00	2.875– 3.00	2.75 – 3.00
No. 2 dark fuel oil....	2.75 – 2.875	2.75 – 2.875	2.625– 2.875
U. G. I. gas oil.....	2.375– 2.50	2.375– 2.50	2.375– 2.50

(*Continued on next page*)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

	Sept. 8	Aug. 31	Aug. 24
Fuel oils: (Prices per barrel of 42 U. S. gallons)			
28-30 zero	2.75 – 2.875	2.75 – 2.875	2.625– 2.875
28-30	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
24-26	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
18-22	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
14-16	$0.625–$0.65	$0.625–$0.65	$0.625–$0.65
Kansas (F.o.b. refinery, Kansas destination)			
No. 1 p.w., fuel oil	3.125– 3.375	3.125– 3.375	3.125– 3.375
18-22 fuel oil (per bbl.)	$0.75 –$0.775	$0.75 –$0.775	$0.70 –$0.75
10-14 fuel oil (per bbl.)	$0.675–$0.725	$0.65 –$0.70	$0.60 –$0.65
North Texas (F.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).			
No. 1 straw, fuel oil	2.875– 3.00	2.875– 3.00	2.875– 3.00
No. 1 white, fuel oil	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
U.G.I. gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
No. 2 fuel oil	2.875– 3.00	2.875– 3.00	2.875– 3.00
24-26 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
18-22 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
West Texas (F.o.b. West Texas refineries for unrestricted shipment).			
No. 2 fuel oil	*2.75 – 2.875	*2.75 – 2.875	*2.75 – 2.875
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.65 –$0.70
*Nominal.			
East Texas (F.o.b. East Texas refineries for unrestricted shipment).			
No. 1 white, fuel oil	*3.00	*3.00	*2.875– 3.00
U.G.I. gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
No. 2 fuel oil	*2.875	*2.875	*2.75 – 2.875
24-26 fuel oil	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
20-24 fuel oil	$0.65	$0.65	$0.65
*Nominal.			
North Louisiana (For Louisiana and Arkansas destination).			
No. 2 fuel oil	2.875– 3.00	2.875– 3.00	2.875– 3.00
U.G.I. gas oil	2.625	2.625	2.625
20-24 fuel oil (per bbl.)	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
16-20 fuel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
10-14 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Arkansas (For Arkansas and Louisiana destination)			
No. 2 fuel oil	*3.25	*3.00 – 3.25	*3.00 – 3.25
28-30 gas oil, zero	*3.00	*2.875	*2.875
20-24 fuel oil (per bbl.)	$0.825–$0.875	$0.825–$0.875	$0.825–$0.875
16-20 fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
10-14 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
*Only one refiner quoting.			
California			
San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.725–$0.85	$0.75 –$0.95	$0.75 –$0.85
Diesel fuel oil	$0.95 –$1.47	$0.95 –$1.89	$0.95 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$2.10	$1.20 –$1.89
Los Angeles, per bbl.:			
Grade C fuel oil	$0.725–$0.95	$0.75 –$0.95	$0.75 –$0.95
Diesel fuel	$0.95 –$1.47	$0.95 –$1.89	$0.95 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$2.10	$1.20 –$1.89
San Francisco, per bbl :			
Grade C fuel oil	$1.00	$1.00	$1.00
Diesel fuel	$1.68	$1.68	$1.68
Stove distillate	$2.10	$2.10	$2.10

Neutral Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Viscous Neutrals (*Viscosity at 70° F.*)

200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	23.00 –23.50	23.00 –23.50	23.00 –23.50
10 pour test	22.00 –22.50	22.00 –22.50	22.00 –22.50
15 pour test	21.50 –22.00	21.50 –22.00	21.50 –22.00
25 pour test	20.50 –21.00	20.50 –21.00	20.50 –21.00
180 Vis. (165 at 100) No. 3 color, 410-415 flash:			
25 pour test	19.50 –20.00	19.50 –20.00	19.50 –20.00
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	19.50 –20.00	19.50 –20.00	19.50 –20.00
10 pour test	18.50 –19.00	18.50 –19.00	18.50 –19.00
15 pour test	18.00 –18.50	18.00 –18.50	18.00 –18.50
25 pour test	17.00 –17.50	17.00 –17.50	17.00 –17.50

South Texas (F.o.b. South Texas refineries, for domestic shipment)

Vis. Color			
Pale Oils:	(*Viscosity at 100° F.; pour test 0*)		
100 No. 1½-2½	4.50 – 5.00	5.00	5.00
200 No. 2-3	6.50 – 7.00	7.00	7.00
300 No. 2-3	7.00 – 7.50	7.50	7.50
500 No. 2½-3½	8.00 – 8.50	8.50	8.50
750 No. 3-4	8.50 – 9.00	9.00	9.00
1200 No. 3-4	9.00 – 9.50	9.50	9.50
2000 No. 4	9.25 –10.00	9.75 –10.00	9.75 –10.00
Red Oils:			
200 No. 5-6	6.50 – 7.00	7.00	7.00
300 No. 5-6	7.00 – 7.50	7.50	7.50
500 No. 5-6	8.00 – 8.50	8.50	8.50
750 No. 5-6	8.50 – 9.00	9.00	9.00
1200 No. 5-6	9.00 – 9.50	9.50	9.50
2000 No. 5-6	9.25 –10.00	9.75 –10.00	9.75 –10.00

Note: South Texas red oil prices shown above cover oils with green cast: blue cast red oils are slightly lower in some cases.

Mid-Continent (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent quotations and sales)

0 to 10 Pour Point:			
Pale Oils			
Vis. Color			
60-85—No. 2	5.25	5.25	5.25
86-110—No. 2	5.75	5.75	5.75
150—No. 3	10.00	10.00	10.00
180—No. 3	11.25	11.25	11.25
200—No. 3	11.75	11.75	11.75
250—No. 3	13.75	13.75	13.75
280—No. 3	14.75	14.75	14.75
300—No. 3	15.25	15.25	15.25
Red Oils:			
180—No. 5	10.25	10.25	10.25
200—No. 5	10.75	10.75	10.75
250—No. 5	12.75	12.75	12.75
280—No. 5	13.75	13.75	13.75
300—No. 5	14.00	14.00	14.00

Note: Non-Viscous pale oils (60-110 vis.), 15 to 25 pour point are generally quoted 0.5c under 0 to 10 pour point oils; pale and red viscous oils (150-300 vis.) with 15 to 25 pour point are generally quoted 1c under 0 to 10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, are generally quoted 0.5c above No. 5 color oils.

Chicago (F.o.b. Chicago District refineries) (Vis. at 100° F.)

Pale Oils, *15 to 30 pour point:			
Vis. Color			
60-85—No. 2	6.50	6.50	6.50
86-110—No. 2	7.00	7.00	7.00
150—No. 3	10.00	10.00	10.00
180—No. 3	11.25	11.25	11.25
200—No. 3	11.75	11.75	11.75
250—No. 3	13.75	13.75	13.75
Red Oils, *15 to 30 Pour Point:			
180—No. 5	10.25	10.25	10.25
200—No. 5	10.75	10.75	10.75
250—No. 5	12.75	12.75	12.75
280—No. 5	13.25	13.25	13.25
300—No. 5	13.50	13.50	13.50

*60-110 vis. oils, with 0-10 pour point, bring 0.5c higher than above prices. Other oils with 0-10 pour point are quoted at 1c higher. To obtain prices delivered in Chicago, add 0.25c per gal.

California (F.o.b. California refineries; Viscosity at 100° F.)

All neutral oils, 11.5c per gal. in tank car lots; and 13.5c in iron bbls., to refiners only, excluding federal tax.

Cylinder Stocks

Mid-Continent (F.o.b. Tulsa basis. Prices represent quotations and sales)

Bright Stocks:			
190-200 Vis. at 210° D	21.50	21.50	21.50
150-160 Vis. at 210° D:			
0 to 10 pour test	18.50	18.50	18.50
10 to 25 pour test	18.00	18.00	18.00
25 to 40 pour test	17.50	17.50	17.50
150-160 Vis. at 210° E	17.50	17.50	17.50
120 Vis. at 210° D:			
0 to 10 pour test	17.50	17.50	17.50
10 to 25 pour test	17.00	17.00	17.00
25 to 40 pour test	16.50	16.50	16.50
600 Stm. Rfd. Dark Green	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
600 Stm. Rfd. Olive Green	6.75 – 8.00	6.75 – 8.00	6.75 – 8.00
631 Steam Refined	*14.00	*14.00	*14.00
Black Oil	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375

*Only one refiner quoting.

Chicago (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210 No. 8 color:			
0 to 10 pour point	20.25	20.25	20.25
15 to 25 pour point	19.75	19.75	19.75
30 to 40 pour point	19.25	19.25	19.25
E filtered Cyl. Stock	14.50	14.50	14.50

To obtain prices delivered in Chicago, add 0.25c per gal.

Western Penna. (A.S.T.M. tests; quotations and/or sales prices to car unloaders)

600 stm. rfd. filterable	*13.25 –13.50	*13.25 –13.50	13.00 –13.50
650 steam refined	*14.50 –15.00	*14.50 –15.00	14.50 –15.00

*Nominal.

(*Continued on next page*)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Prices are those to domestic jobbers who resell to consumers. They do not represent inter-refinery sales, or sales for export. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Cylinder Stocks (cont'd)

	Sept. 8	Aug. 31	Aug. 24
600 flash	*15.50 -16.00	*15.50 -16.00	15.50 -16.00
630 flash	*17.50 -18.00	*17.50 -18.00	17.50 -18.00
600 Warren E.	*16.00 -16.50	*16.00 -16.50	15.50 -16.00
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:			
10 pour test	24.00 -24.50	24.00 -24.50	24.00 -24.50
15 pour test	23.00 -23.50	23.00 -23.50	23.00 -23.50
20 pour test	22.00 -22.50	22.00 -22.50	22.00 -22.50
25 pour test	21.00 -21.50	21.00 -21.50	21.00 -21.50

*Nominal.

Petrolatums

Western Penna. (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	6.625	6.625	6.625
Lily White	5.625	5.625	5.625
Cream White	4.625	4.625	4.625
Light Amber	2.75	2.75	2.75
Amber	2.50	2.50	2.50
Red	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125

Wax

	Sept. 8	Aug. 31	Aug. 24
Western Penna. (Per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.40 – 2.45	2.40 – 2.45	2.35 – 2.45
124-126 wh. crude scale, A.m.p.	2.45 – 2.50	2.45 – 2.50	2.40 – 2.50
Oklahoma (Per pound in barrels; in a few instances, perpound in burlap bags; f.o.b. Oklahoma refineries)			
124-126 wh. crude scale, A.m.p.	2.50	2.375– 2.50	2.375– 2.50
Chicago (F.o.b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)			
Fully refined:			
122-124	4.65 – 4.75	4.65 – 4.75	4.65 – 4.75
125-127	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
127-129	5.05 – 5.15	5.05 – 5.15	5.05 – 5.15
130-132	*5.45 – 5.55	*5.45 – 5.55	*5.45 – 5.55
132-134	*5.70 – 5.80	*5.70 – 5.80	*5.70 – 5.80
135-137	*6.45 – 6.55	*6.45 – 6.55	*6.45 – 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Following prices are in cents per gallon, except where otherwise noted, in tank car lots, representing majority of sales of products made by Chicago sellers, from legally produced crude to jobbers on Group 3 freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	Sept. 8	Aug. 31	Aug. 24
62 octane and below	4.625– 4.875	4.625– 4.875	4.625– 5.00
63-67 octane	4.875– 5.50	4.875– 5.50	4.875– 5.50
68-70 octane (regular)	5.375– 5.75	5.50 – 5.875	5.50 – 6.00
60-62, 400 e.p.	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
64-66, 375 e.p.	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
68-70, 350-360 e.p.	5.125– 5.375	5.125– 5.375	5.125– 5.375

Kerosine

41-43 w.w.	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
42-44 w.w.	3.125– 3.50	3.125– 3.50	3.125– 3.50

Fuel *and* Gas Oils

Domestic:			
No. 1 prime white	3.00 – 3.125	3.00 – 3.125	2.875– 3.125
No. 1 straw	2.875– 3.00	2.875– 3.00	2.75 – 3.00
No. 2 straw	2.875– 3.00	2.875– 3.00	2.75 – 2.875
No. 2 dark	2.75 – 2.875	2.75 – 2.875	2.625– 2.75
No. 3	2.625– 2.75	2.625– 2.75	2.625– 2.75
No. 4 (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
No. 5 (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Industrial:			
No. 4 (per bbl.)	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
No. 5 (per bbl.)	$0.625–$0.675	$0.625–$0.675	$0.625–$0.675
No. 6 (per bbl.)	$0.55 –$0.60	$0.55 –$0.60	$0.55 –$0.60
U.G.I. gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50

Naphtha *and* Solvent

Stoddard solvent	6.875	6.875	6.875
V. M. & P. naphtha	7.375	7.375	7.375
Cleaners' naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

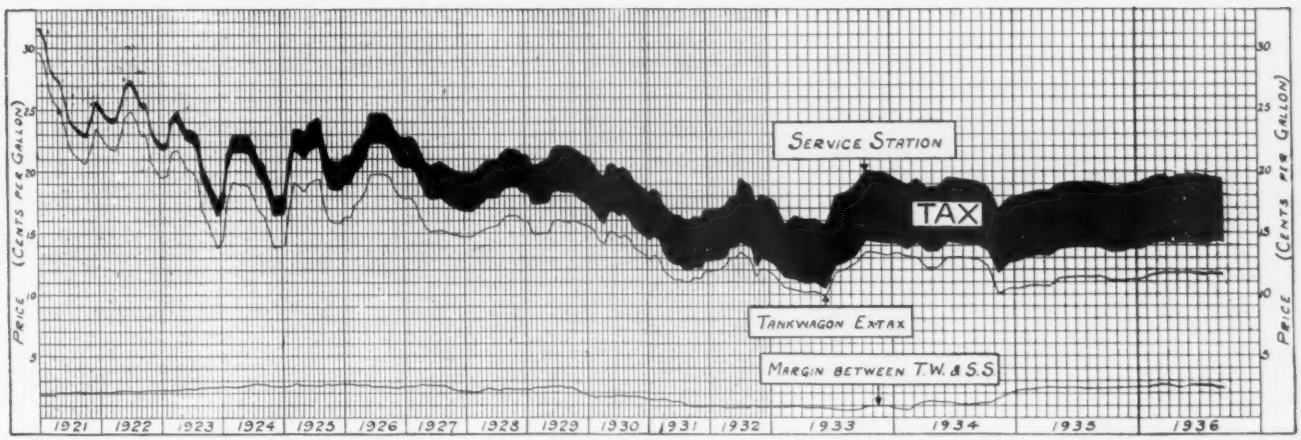
DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended Sept. 4, 1936)

	Aug. 31	Sept. 1	Sept. 2	Sept. 3	Sept. 4
U. S. Motor, 62 octane and below:					
East Texas	4.75	4.75	4.75	4.75	4.75
*North Texas	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
West Texas	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
Oklahoma	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Mid-Western (Group 3 basis)	4.625– 4.875	4.625– 4.875	4.625– 4.875	4.625– 4.875	4.625– 4.875
U. S. Motor, 63-67 octane:					
*North Texas	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375
West Texas	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
Oklahoma	5.125– 5.50	5.125– 5.50	5.125– 5.50	5.125– 5.50	5.125– 5.50
Mid-Western (Group 3 basis)	4.875– 5.50	4.875– 5.50	4.875– 5.50	4.875– 5.50	4.875– 5.50
U. S. Motor, 68-70 octane (regular):					
*North Texas	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875
West Texas	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Oklahoma	5.625– 5.875	5.625– 5.875	5.625– 5.875	5.625– 5.875	5.625– 5.875
Mid-Western (Group 3 basis)	5.50 – 5.875	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Motor Gasoline, 60-64 octane					
New York harbor	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Philadelphia district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Baltimore district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 5.75	6.50 – 6.75
Motor Gasoline, 65 octane & above					
New York harbor	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Philadelphia district	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Baltimore district	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.75 – 5.875	5.75 – 5.875	5.625– 5.75	5.625– 5.75	5.625– 5.75
Other districts (Western Penna.)	5.75 – 5.875	5.75 – 5.875	5.625– 5.75	5.625– 5.75	5.625– 5.75
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Other districts (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Other districts (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.

Trend of Gasoline Prices *and* Gasoline Taxes, at 50 Representative Cities



TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Sept. 7, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N. J.	7.8	9.5	4	*	9
Newark, N. J.	7.5	9	4	*	7.5
Annapolis, Md.	8.1	10.1	5	*	10
Baltimore, Md.	7.5	9.5	5	*	8
Cumberland, Md.	9.1	11.6	5	*	12.7
Washington, D. C.	7.5	9.5	3	16	9
Danville, Va.	8.7	11.2	6	20.7	12.9
Norfolk, Va.	7.5	10	6	19.5	11.3
Petersburg, Va.	7.8	10.3	6	19.8	11.7
Richmond, Va.	7.8	10.3	6	19.8	11.7
Roanoke, Va.	9	11.5	6	21	12.9
Charleston, W. Va.	8.3	10.8	5	19.3	12.6
Parkersburg, W. Va.	7.6	10.1	5	*	11.2
Wheeling, W. Va.	8.5	10	5	18.5	12.2
Charlotte, N. C.	8.9	11.4	7	21.9	12.6
Hickory, N. C.	9.4	11.9	7	22.4	13
Mt. Airy, N. C.	9.2	11.7	7	*	12.8
Raleigh, N. C.	8.5	11	7	*	12.1
Salisbury, N. C.	9	11.5	7	*	12.7
Charleston, S. C.	7.5	10	7	20.5	11.3
Columbia, S. C.	8.8	11.3	7	21.8	12.6
Spartanburg, S. C.	9.2	11.7	7	22.2	12.9

*S. O. New Jersey transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: Beginning Feb. 11, 1935, all new commercial consumers will be signed on following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c.

Above prices apply only when deliveries are made in lots of 50 or 100 gals. at one time, depending on region in which deliveries are made.

If deliveries are made in less than these minimum quantities, s.s. price at time and place of delivery applies.

Non-contract customers will be billed at 2.5c over tank car price at time and place of delivery.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas

	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	S.S.	Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8.7	*4	12.7	**	7.25
Borough of Richmond (Staten Is.)	9	*4	13	18	7.25
Albany, N. Y.	9	4	13	16.5	7.75
Binghamton, N. Y.	10	4	14	**	9
Buffalo, N. Y.	9.5	4	13.5	17	8.25
Jamestown, N. Y.	10	4	14	**	8.25
Plattsburg, N. Y.	11	4	15	**	8.75
Rochester, N. Y.	9.5	4	13.5	17	8.25
Syracuse, N. Y.	9.5	4	13.5	17	8.75
Danbury, Conn.	9.5	4	13.5	**	8
Hartford, Conn.	9	4	13	**	7
New Haven, Conn.	9	4	13	**	7.5
Bangor, Me.	10.5	5	15.5	**	8
Portland, Me.	10	5	15	**	7.75
Boston, Mass.	9	4	13	16.5	7.5
Concord, N. H.	10.5	5	15.5	**	8.5
Lancaster, N. H.	11.5	5	16.5	**	9.5
Manchester, N. H.	10.5	5	15.5	**	8
Providence, R. I.	9	3	12	15.5	7.25
Burlington, Vt.	11.5	5	16.5	**	8.75
Rutland, Vt.	10.5	5	15.5	**	8.5

*Plus 2% city sales tax computed at time of each sale.

**Socony-Vacuum transferred stations to dealers; no prices available.

Discounts to dealers: thru territory, off normal s.s. price, 4c to undivided dealers, and 3.5c to "split" dealers; except Metropolitan N. Y. City, undivided dealers get 5.5c and divided dealers get 5c, effective May 7.

To commercial consumers: Effective Feb. 4, 1935, covering yearly purchases, billed at posted tank car price, plus these differentials: 2.5c for delivery of 1,200 to 36,000 gals.; plus 2c, for 36,000 to 120,000 gals.; plus 1.5c for 120,000 to 240,000 gals.; plus 1c for 240,000 to 480,000 gals.; plus 0.5c for 480,000 gals. and over. Those buying less than 1,200 gals. yearly, get retail s.s. price.

Atlantic Refining

Atlantic White Flash Plus Gasoline

	Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	11.5	5	16.5	17.5	9.5
Pittsburgh, Pa.	12.5	5	17.5	19.5	9
Allentown, Pa.	11.75	5	16.75	17.5	9.5
Erie, Pa.	12.5	5	17.5	18.5	8
Scranton, Pa.	11.75	5	16.75	17	10
Altoona, Pa.	12.5	5	17.5	19.5	9.5
Dover, Del.	12	5	17	**	10
Wilmington, Del.	12	5	17	17	9
Boston, Mass.	9	4	13	16.5	7
Springfield, Mass.	10	4	14	17.5	7.5
Worcester, Mass.	10	4	14	17.5	7.75
Fall River, Mass.	9	4	13	16.5	7
Hartford, Conn.	9	4	13	16.5	7
New Haven, Conn.	9	4	13	16.5	7.5

Atlantic Refining—Cont'd

Atlantic White Flash Plus Gasoline

	Total T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Providence, R. I.	9	3	12	15.5	7
Atlantic City, N. J.	10.3	4	14.3	17	9
Camden, N. J.	10	4	14	16.5	8
Trenton, N. J.	10.3	4	14.3	17	8
Annapolis, Md.	10.6	5	15.6	19.1	9.5
Baltimore, Md.	10	5	15	18	8
Hagerstown, Md.	11.1	5	16.1	19.6	10
Richmond, Va.	10.5	6	16.5	20	11.7
Wilmington, N. C.	10.1	7	17.1	20.6	11.3
Brunswick, Ga.	12	7	19	21	*13
Jacksonville, Fla.	10	8	18	20	10

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental.

Price basis to commercial consumer: Effective Oct. 1, 1935, on yearly gasoline purchases based on posted tank car prices plus following amounts: 1,200 to 36,000 gals., 2.5c over t.c.; 36,000 to 120,000 gals., 2c; 120,000 to 240,000 gals., 1.5c; 240,000 to 480,000 gals., 1c; 480,000 gals. and over, 0.5c.

S. O. Ohio

Sohio X-70 Gasoline

Ohio statewide	12.5	5	17.5	19.5	*13.5
Counties below statewide gasoline schedule: Ashtabula, Columbiana, Darke, Fayette, Greene, Jefferson, Licking, Lucas, Madison, Mahoning, Miami, Montgomery, Preble, Ross, and Trumbull:	11.5	5	16.5	18.5	....
Fairfield	11.5	5	16.5	18	....
Paulding	11	5	16	17	....
Champaign, Clarke, Franklin, Knox and Pickaway	11.5	5	16.5	17.5	....

Renown (Third Grade Gasoline)

Ohio statewide	12	5	17	18	....
Counties below statewide gasoline schedule: Darke, Greene, Miami, Montgomery and Preble:	11.5	5	16.5	18.5	....
Ashtabula, Columbiana, Fayette, Jefferson, Licking, Lucas, Madison, Mahoning, Ross, and Trumbull	11	5	16	17	....
Fairfield	11	5	16	16.5	....
Paulding	9	5	14	15.5	....
Champaign, Clarke, Franklin, Knox, and Pickaway	11	5	16	16	....
Counties above statewide schedule: Butler, Hamilton, Hocking and Summit:	12.5	5	17.5	19.5	....

Kerosine Prices
(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia *13

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls. Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Sept. 7, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. Ohio—Cont'd

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandot.....*12.5
Defiance and Paulding.....*12

Statewide Prices to Resellers & Agents

(These gasoline prices are on sliding scale based on actual spread between S. O. Ohio statewide tank car price and posted local s.s. price).

Including taxes	†Undivided Accounts	Divided Accounts	**Authorized Agents
Sohio X-70.....	16	16.5	16.5
Renown (3rd grade)...	15.5	16	16

Note: On single deliveries of motor gasolines under 25 gallons, to t.w. consumers, s.s. price applies.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices." S. O. Ohio says.

*Kerosine prices include 1c state tax.

†Excluding authorized agents.

**Excluding 0.5c rental.

Discounts to contract tank wagon consumers only: on all motor gasolines, thru Ohio, effective Dec. 1, 1934, except counties mentioned hereafter, off posted t.w. price, on deliverics per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., full t.w. price. Single deliveries of less than 25 gals., full s.s. price. Additional yearly discounts (less amount paid or credited to buyer on monthly purchases), off t.w. price: 12,000 to 119,999 gals., 1.5c; 120,000 gals. or over, 2.5c. Q. D. A. is off statewide schedule in the following counties: Allen, Ashtabula, Auglaize, Columbiana, Darke, Defiance, Franklin, Fulton, Hamilton, Hancock, Hardin, Henry, Jefferson, Logan, Lucas, Mahoning, Medina, Mercer, Putnam, Shelby, Trumbull, Union, Van Wert and Williams: for this information, write National Petroleum News.

Discounts on kerosine: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

S. O. Kentucky

Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Lexington, Ky.	13	6	19	21	11
Louisville, Ky.	13	6	19	21	10
Paducah, Ky.	12	6	18	19	8.5
Covington, Ky.	12.5	6	18.5	20.5	10.5
Jackson, Miss.	13	7	20	22	*12.5
Vicksburg, Miss.	12.5	7	19.5	**	*13
Birmingham, Ala.	13	*8	21	23	12
Mobile, Ala.	13	*9	21	23	11
Montgomery, Ala.	13	*9	22	24	*14
Macon, Ga.	13	7	20	22	*14
Atlanta, Ga.	13.5	7	20.5	22.5	*13
Augusta, Ga.	13	7	20	22	*13.5
Savannah, Ga.	11.5	7	18.5	20.5	*12.5
Jacksonville, Fla.	10	8	18	20	11.5
Miami, Fla.	11.5	8	19.5	21.5	12.5
Tampa, Fla.	10	8	18	20	11.5
Pensacola, Fla.	12.5	*9	21.5	23.5	12

Kyso (Third Grade)

Lexington, Ky.	11.5	6	17.5	19	....
Louisville, Ky.	11.5	6	17.5	19	....
Paducah, Ky.	9	6	15	15.5	....
Covington, Ky.	11	6	17	18.5	....
Jackson, Miss.	11.5	7	18.5	20	....
Vicksburg, Miss.	10.75	7	17.75	**	....
Birmingham, Ala.	11	*8	19	20	....
Mobile, Ala.	11	*9	19	20	....
Montgomery, Ala.	10.5	*9	19.5	20	....
Atlanta, Ga.	10.5	7	17.5	18	....
Augusta, Ga.	10	7	17	17.5	....
Macon, Ga.	10	7	17	17.5	....
Pensacola, Fla.	10.75	*9	19.75	21	....

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

Discounts to tank wagon consumers: all single deliveries of 50 gals. or less, get posted s.s. price: all single deliveries of 50 gals. or more, to be billed at posted t.w. price, plus following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes 1c city tax.

**S. O. Kentucky transferred stations to dealers; no prices available.

S. O. Indiana

Standard Red Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Chicago, Ill.	11.5	4	15.5	17.5	9.2
Decatur, Ill.	11.7	4	15.7	17.7	9.2
Joliet, Ill.	10.5	4	14.5	17.0	10.1
Peoria, Ill.	11.7	4	15.7	17.7	9.2
Quincy, Ill.	11.5	4	15.5	17.5	9.0
Indianapolis, Ind.	12.6	*5	17.6	19.6	13.0
Evansville, Ind.	12.4	*5	17.4	19.4	13.5
South Bend, Ind.	12.8	*5	17.8	19.8	13.0
Detroit, Mich.	11.0	4	15.0	17.0	8.8
Grand Rapids, Mich.	11.4	4	15.4	17.4	9.3
Saginaw, Mich.	11.6	4	15.6	17.6	10.1
Green Bay, Wis.	12.4	5	17.4	19.4	9.9
Milwaukee, Wis.	11.3	5	16.3	18.3	9.5
La Crosse, Wis.	12.1	5	17.1	19.1	9.6
Minneapolis, Minn.	12.1	4	16.1	18.1	9.6
Duluth, Minn.	12.5	4	16.5	18.5	10
Mankato, Minn.	12.1	4	16.1	18.1	9.6
Des Moines, Iowa	11.5	4	15.5	**	9.0
Sioux City, Iowa	11.7	4	15.7	**	9.2
Davenport, Iowa	11.7	4	15.7	**	9.2
Mason City, Iowa	11.9	4	15.9	**	9.4
St. Louis, Mo.	11.4	†4	15.4	17.4	8.9
Kansas City, Mo.	11.1	†4	15.1	17.1	8
St. Joseph, Mo.	11.1	†4	15.1	17.1	8.6
Fargo, N. D.	13.1	4	17.1	19.1	10.6
Minot, N. D.	14.3	4	18.3	20.3	11.8
Huron, S. D.	12.6	*5	17.6	19.6	10.1
Wichita, Kans.	10.6	4	14.6	15	8

Note: Kerosine s.s. prices are generally 3c above normal t.w. price.

Stanolind Gasoline (Third Grade)

Stanolind normal prices are 1c under normal Red Crown prices, through territory. Among subnormal points are the following:

Decatur, Ill.	10.7	4	14.7	16	....
Joliet, Ill.	10.7	4	14.7	15.5	....
Peoria, Ill.	10.7	4	14.7	16	....
Quincy, Ill.	10.5	4	14.5	13.5	....
Evansville, Ind.	11.4	*5	16.4	18.2	....
Indianapolis, Ind.	11.6	*5	16.6	18.4	....
Des Moines, Iowa	10.1	4	14.1	**	....
Mason City, Iowa	9.9	4	13.9	**	....
St. Louis, Mo.	10.4	†4	14.4	14.7	....
Detroit, Mich.	9.5	4	13.5	15.5	....
Saginaw, Mich.	10.6	4	14.6	16.6	....
Green Bay, Wis.	11.4	5	16.4	15	....
Milwaukee, Wis.	9.8	5	14.8	16.3	....
Huron, S. D.	11	*5	16	18.6	....
Wichita, Kans.	7.5	4	11.5	13	....
Duluth, Minn.	11.5	4	15.5	15.8	....
Minneapolis, Minn.	11.1	4	15.1	17.1	....

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

**South Dakota gasoline and kerosine prices include 0.1c for sales tax. Indiana t.w. and s.s. gasoline prices include 0.2c for chain store tax.

**S. O. Indiana does not operate stations in Iowa.

Discounts to dealers: Effective Dec. 1, 1934, thru territory, except Michigan effective Apr. 1, 1935, and except Chicago division and Iowa, maximum discounts to controlled and uncontrolled undivided gasoline accounts, off s.s. price at normal points: Ethyl and Red Crown gasoline, 3.5c; Stanolind 2.5c; in Chicago, effective July 1, 1935, Ethyl and Red Crown, 4c; Stanolind, 3c. Divided gasoline accounts thru territory, get 0.5c less per gallon. In case of lease and agency and AAA accounts, the above discounts include the 0.5c per gal. rental allowance. In Iowa, normal dealer prices are 1.5c below normal t.w. price for first and second grade gasolines, and 0.5c under normal t.w. for third grade.

Discounts to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. price; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals. or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Purchases of less than 25 gals. get regular s.s. price.

S. O. Nebraska

Standard Red Crown Gasoline

Omaha, Neb.	12.1	6	18.1	20.1	9.5
McCook, Neb.	12.8	6	18.8	20.8	10.2
Norfolk, Neb.	12.5	6	18.5	20.5	9.9
North Platte, Neb.	12.9	6	18.9	20.9	10.3
Scottsbluff, Neb.	13.6	6	19.6	21.6	11

Reliance Gasoline (Third Grade)

Omaha, Neb.	10.9	6	16.9	16.9	....
McCook, Neb.	11.8	6	17.8	18.9	....
Norfolk, Neb.	11.5	6	17.5	19.5	....
North Platte, Neb.	11.9	6	17.9	19.9	....
Scottsbluff, Neb.	12.6	6	18.6	20.6	....

Discount to dealers: where service station gasoline prices are normal, resellers' allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

Discounts to consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Little Rock, Ark.	8	10.5	7.5	**	11.5
Alexandria, La.	8	10.5	8	**	*11
Baton Rouge, La.	7.5	10	8	21.5	*11.5
New Orleans, La.	7	9.5	*10	23	*13
Lake Charles, La.	8.5	11	8	**	*11
Shreveport, La.	7	9.5	8	21	*10
Lafayette, La.	8.5	11	8	**	*12.5
Bristol, Tenn.	9.5	11.25	8	**	14.5
Chattanooga, Tenn.	10	12.5	8	24	11.5
Knoxville, Tenn.	10	12.5	8	24	14
Memphis, Tenn.	8.5	11	8	22.5	11
Nashville, Tenn.	9.5	12	8	23.5	10

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective Feb. 11, 1935, commercial consumers not under contract will be billed at 2.5c per gal. above posted bulk plant tank car price at time and place of delivery in lots of 50 gals. or more at one time. Contract customers will be billed at following differentials over tank car price, on yearly purchases: up to 35,999 gals., 2.5c over tank car price; 36,000 to 119,999 gals., 2c over; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; 480,000 gals. and over, 0.5c.

On single deliveries to all classes of commercial consumers, of less than 50 gals., s.s. price at time and place of delivery applies.

Humble Oil & Refining Co.

Humble Motor Fuel

	*100% Dlr. T.W.	Taxes	Total *100% Dlr. T.W.	S.S.	Kerosine T.W.
Dallas, Tex.	8.5	5	13.5	17	8.5
Ft. Worth, Tex.	8.5	5	13.5	17	8.5
Houston, Tex.	9	5	14	18	8.5
San Antonio, Tex.	9	5	14	18	8.5

U. S. Motor Fuel (Third Grade)

Dallas, Tex.	7	5	12	14	....
Ft. Worth, Tex.	7	5	12	14	....
Houston, Tex.	8	5	13	16	....
San Antonio, Tex.	8	5	13	16	....

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

Price basis to dealers: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c; and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

Conoco Bronze Gasoline

Denver, Colo.	14	5	19	21	11
Grand Junction, Col.	15	5	21.5	23.5	15
Pueblo, Colo.	14	5	19	21	10
Casper, Wyo.	14.5	5	19.5	21.5	11.5
Cheyenne, Wyo.	14.5	5	19.5	21.5	13
Billings, Mont.	16.5	6	22.5	24.5	14.5
Butte, Mont.	15	6	21	23	14.5
Great Falls, Mont.	16.5	6	22.5	24.5	14.5
Helena, Mont.	16.5	6	22.5	24.5	14.5
Salt Lake City, Utah.	16	5	21	23	16
Boise, Ida.	16.5	6	22.5	24.5	18
Twin Falls, Ida.	17	6	23	25	18
Albuquerque, N. M.	12.5	†6.5	19	21	13
Roswell, N. M.	13.5	†6.5	20	22	10
Santa Fe, N. M.	14.5	*7	21.5	23.5	12
Ft. Smith, Ark.	10.5	5	15.5	19	8
Little Rock, Ark.	10.5	7.5	18	21.5	9.5
Texarkana, Ark.	9.5	5	14.5	18.5	8.5
Muskogee, Okla.	10	5	15	19	8
Oklahoma City, Okla.	10	5	15	**	8
Tulsa, Okla.	10	5	15	19	8

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Sept. 7, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

Continental Oil—Cont'd

Demand (Third Grade)

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Denver, Colo.	12	5	17	19	...
Cheyenne, Wyo.	12.5	5	17.5	19.5	...
Helena, Mont.	14.5	6	20.5	22.5	....
Salt Lake City, Utah.	12	5	17	19	....
Boise, Ida.	14.5	6	20.5	22.5	....
Albuquerque, N. M.	10.5	†6.5	17	19	....
Roswell, N. M.	9	†6.5	15.5	17.5	....
Santa Fe, N. M.	10	*7	17	19	....
Ft. Smith, Ark.	10.5	5	15.5	16	....
Little Rock, Ark.	10.5	7.5	18	18.5	....
Texarkana, Ark.	7	5	12	14	....
Muskogee, Okla.	9	5	14	17	....
Oklahoma City, Okla.	9	5	14	**	....
Tulsa, Okla.	8	5	13	13	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
**Continental Oil discontinued posting s.s. prices in Oklahoma County, including Okla. City, Aug. 10, 1936.

Discounts: effective March 1, 1934, on gasolines thru territory, off normal s.s. price, except Montana, to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c; except Arkansas, 3.25c. To "divided" dealers thru territory: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c, except Utah, Idaho and Oklahoma County, Okla. where full 100% or undivided dealer discount is applied to divided dealers also, thru Montana, effective March 24, 1936, on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c. In Arkansas, all dealer discounts are reduced by one-half the difference between the normal s.s. and the posted price, when such posted prices are subnormal.

S. O. California

Standard Gasoline

San Francisco, Cal.	13	4	17	18	11.5
Los Angeles, Cal.	12.5	4	16.5	17.5	9
Fresno, Cal.	13.5	4	17.5	18.5	11
Phoenix, Ariz.	15	6	21	22	†16
Reno, Nev.	14.5	5	19.5	20.5	13
Portland, Ore.	13.5	6	19.5	20.5	13.5
Seattle, Wash.	13.5	6	19.5	20.5	13.5
Spokane, Wash.	16.5	6	22.5	23.5	16.5
Tacoma, Wash.	13.5	6	19.5	20.5	13.5

Flight Gasoline (Third Grade)

San Francisco, Cal.	11.5	4	15.5	16.5	....
Los Angeles, Cal.	11	4	15	16	....
Fresno, Cal.	12	4	16	17	....
Reno, Nev.	13	5	18	19	....
Phoenix, Ariz.	13.5	6	19.5	20.5	....
Portland, Ore.	12	6	18	19	....
Seattle, Wash.	12	6	18	19	....
Spokane, Wash.	15	6	21	22	....
Tacoma, Wash.	12	6	18	19	....

†Includes 5c state tax.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery on Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline 2c per gallon. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

Prices of Imperial Oil Ltd.

Per Imperial Gallon, which is 1.2 U. S. Gallons

Imperial Three Star Gasoline

Hamilton, Ont.	15	6	21	23.5	17
Toronto, Ont.	15	6	21	23.5	17
Brandon, Man.	22.8	7	29.8	32.8	22.3
Winnipeg, Man.	21.2	7	28.2	31.2	20.7
Regina, Sask.	22.5	7	29.5	32.5	22
Saskatoon, Sask.	25.3	7	32.3	35.3	24.8
Edmonton, Alta.	24.7	7	31.7	34.7	24.2
Calgary, Alta.	22	7	29	32	21.5
Vancouver, B. C.	18	7	25	28	23
Montreal, Que.	13.5	6	19.5	22	17.5
St. John, N. B.	17	8	25	29	19.5
Halifax, N. S.	17	8	25	29	19.5

Discounts to dealers: off s.s. prices:

Maritime Provinces, 4c to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, except Vancouver, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers; Vancouver, 5c to undivided dealers, 4c to divided.

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect Sept. 7, 1936

S. O. New Jersey

	Tank Car	T.W.
Bayonne, N. J.	10	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond, Va.		14.2
Greensboro, N. C.		14.7
Raleigh, N. C.		16.6
Charleston, W. Va.		14.2

Colonial Beacon Oil Co.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	14.5

S. O. Pennsylvnia

Philadelphia, Pa.	13.1
Pittsburgh, Pa.	13.9

S. O. Louisiana

New Orleans, La.	12.3
Shreveport, La.	12.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. Ohio

Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

S. O. Indiana

Chicago, Ill.	15	4	19
Indianapolis, Ind.	15.9	5	20.9
Detroit, Mich.	16.5	4	20.5
Milwaukee, Wisc.	15.3	5	20.3
Minneapolis, Minn.	15.4	4	19.4
St. Louis, Mo.	13.7	*4	17.7
Kansas City, Mo.	14.4	*4	18.4
Fargo, N. D.	16.4	4	20.4
Huron, S. D.	15.9	5	20.9
Wichita, Kans.	13.9	4	17.9

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

Humble Oil & Refining Co.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

Continental Oil Co.

	T.W.	Tax	Total T.W.
Denver, Colo.	17	5	22
Cheyenne, Wyo.	17.5	5	22.5
Helena, Mont.	19.5	6	25.5
Salt Lake City, Utah.	19	5	24
Albuquerque, N. M.	15.5	*6.5	22

*Includes city tax of 0.5c.

S. O. California

Phoenix, Ariz.	17	6	23
Los Angeles, Cal.	14.5	4	18.5
San Francisco, Cal.	15	4	19
Reno, Nev.	16.5	5	21.5
Portland, Ore.	15.5	6	21.5
Seattle, Wash.	15.5	6	21.5
Spokane, Wash.	18.5	6	24.5

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

In Effect Sept. 7, 1936

(Net price in Tank Wagon; in Cents per Gallon)

***S. O. New Jersey**

	Mineral Spirits	V.M.&P. Naphtha
Baltimore, Md.	14	15.5
Newark, N. J.	12.5	14.5
Washington, D. C.	14	**17.5

**Steel bbls. only.

Socony-Vacuum Oil Co.

Buffalo, N. Y.	11.5	12.5
New York City	10.5	11.5
Rochester, N. Y.	12	....
Syracuse, N. Y.	14	....
Boston, Mass.	13	13.5
Bridgeport, Conn.	13	13.5
Providence, R. I.	13	14

Atlantic Refining Co.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha. *2c off above t.w. prices to large buyers in som- instances.

S. O. Ohio

	S. R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices.

S. O. Indiana

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	16.2	16.5	15
Detroit, Mich.	17.9	19	18
Kansas City, Mo.	13.9	14.9	13.9
St. Louis, Mo.	14.2	15.2	12.5
Milwaukee, Wis.	18.8	19.8	18.8
Minneapolis, Minn.	17.9	18.9	16.4

Note: Prices for V.M.&P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F.o.b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10	9.5
New York Harbor	10	9
Philadelphia district	10	9.5
Providence	10	9.5
Ohio points, delivered	9.25	*8.75

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

From Sept. 1 to Sept. 7 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

Atlantic Refining:

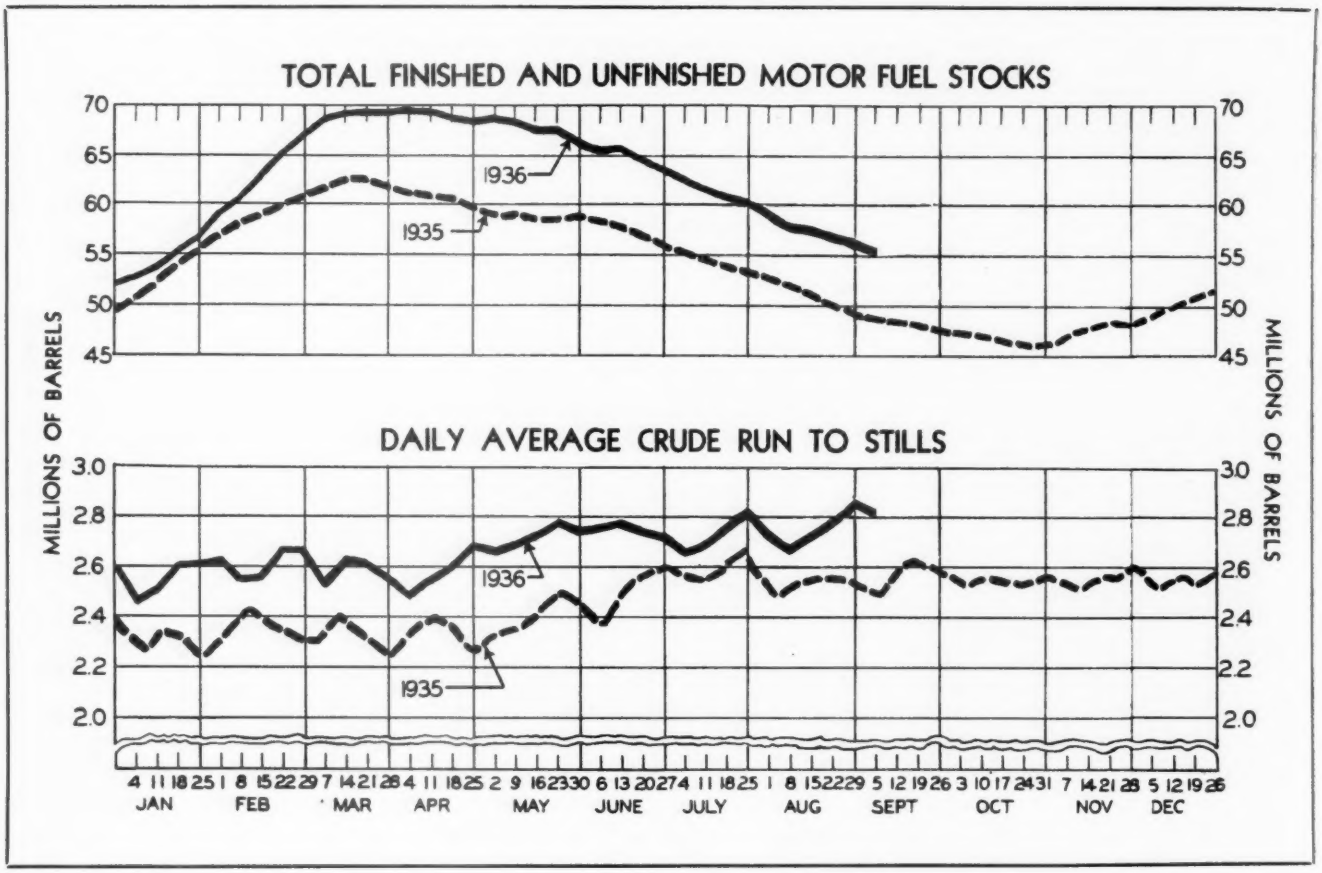
Service stations at Dover, Del., transferred to dealers, Sept. 4.

S. O. Indiana—Red Crown and Stanolind:

Normal t.w. and s.s. cut 0.3c, thru territory, except points unchanged where prices were more than 0.3c be-

(Continued on page 65)

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.


TOTAL FINISHED AND UNFINISHED MOTOR FUEL STOCKS
MILLIONS OF BARRELS
70
65
60
55
50
45
1936
1935
DAILY AVERAGE CRUDE RUN TO STILLS
3.0
2.8
2.6
2.4
2.2
2.0
4 11 18 25 1 8 15 22 29 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Refinery Crude Runs Cut 42,000 Barrels

NEW YORK, Sept. 9

DECLINES of 42,000 barrels in daily average crude runs at refineries and of 550,000 barrels in stocks of motor fuel, were high spots in refinery operations the week ended Sept. 5, according to the American Petroleum Institute. Crude runs the previous week had increased 76,000 barrels while motor fuel stocks had declined 638,000 barrels.

California refiners slowed up their runs more than others. This district showed a decline of 49,000 barrels in refinery crude runs, with an accompanying decrease of 6.2 per cent in operations. Motor fuel stocks here declined 22,000 barrels.

Crude runs in the East Coast plants increased 18,000 barrels and in Indiana-Illinois-Kentucky increased 22,000 barrels. The latter district showed a gain of 5 per cent in operations. There were smaller changes in other districts.

Motor fuel stocks declined in six districts, while four indicated increases, the highest being a gain of 63,000 barrels in Oklahoma-Kansas-Missouri. The most notable decreases in stocks were in Indiana-Illinois-Kentucky where they declined 318,000 barrels; in Texas Gulf, where the decline was 200,000 barrels, and in the Louisiana Gulf where stocks were off 108,000 barrels.

Motor fuel stocks at refineries totaled 30,270,000 barrels on Sept. 5; in transit and at terminals, 19,083,000 barrels, and stocks of unfinished gasoline amounted to 6,062,000 barrels.

CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished and Unfinished Motor Fuel*		Finished Gas & Fuel Oil		Cracked Gasoline Production % Total Capacity Reporting	Daily Av. Production (Barrels) Week Ended	
		Sept. 5	Aug. 29	Sept. 5	Aug. 29	Sept. 5	Aug. 29	Sept. 5	Aug. 29		Sept. 5	Aug. 29
East Coast	100.0	530,000	512,000	86.6	83.7	17,005	16,952	11,917	11,649	100.0	107,000	108,000
Appalachian	94.8	98,000	104,000	67.1	71.2	2,161	2,128	626	582	98.7	28,000	25,000
Ind., Ill., Ky	96.1	434,000	412,000	97.7	92.8	8,266	8,584	6,079	5,814	99.7	142,000	133,000
Okla., Kans., Mo	84.8	278,000	292,000	72.4	76.0	5,658	5,595	3,471	3,494	89.1	69,00	75,000
Inland Texas	48.5	110,000	119,000	68.8	74.4	1,328	1,308	1,676	1,727	70.9	31,000	32,000
Texas Gulf	96.8	654,000	643,000	99.4	97.7	6,342	6,542	8,894	8,919	78.5	154,000	153,000
La. Gulf	96.4	129,000	136,000	79.1	83.4	1,634	1,742	2,435	2,255	96.1	27,000	34,000
No. La., Ark	90.0	38,000	44,000	52.8	61.1	235	269	384	367	95.7	10,000	8,000
Rocky Mt.	61.9	48,000	50,000	80.0	83.3	866	903	811	811	84.8	12,000	14,000
California	92.6	489,000	538,000	62.0	68.2	11,920	11,942	72,678	73,126	100.0	71,000	72,000
Total Reporting	89.7	2,808,000	2,850,000	80.5	81.7	55,415	55,965	108,971	108,744	95.9	651,000	654,000
Estimated U. S. Total (Bur. of Mines Basis.)		3,025,000	3,050,000			58,493	**59,043	111,281	**111,054		690,000	695,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.
**Revised.

LIGHT FUELS *Attract* MORE BUYERS

INTEREST in light fuel oils continued to increase last week as more buyers began looking for supplies for the fall heating season. For the most part prices were steady to higher. Refiners showed less inclination to sell at prevailing prices. One disturbing feature, however, was a reduction in No. 1 oil prices along the eastern seaboard.

Some buyers who were said to have held off buying their fall and winter requirements until the last minute were active in the market last week. Offerings were fairly scarce in the Mid-Western and Mid-Continent markets, although it was believed in some quarters that higher prices would bring out new offerings.

No. 1 fuel oil prices were reduced 0.125 to 0.625 cent along the eastern seaboard by Standard of New Jersey. The majority of marketers met the reductions, although a few reported they were not actively seeking business at the lower prices.

Demand for industrial fuels showed little change. Offerings were absorbed about as soon as they appeared on the market.

* * *

TULSA, Sept. 5.—The policy of most Mid-Continent refiners of storing all light fuel oils they produce was making it increasingly difficult for open market buyers to obtain sufficient supplies.

An active heating oil season was expected by most refiners this winter and as a result efforts were being made to accumulate large stocks. In order to do this, refiners were restricting sales to their regular gasoline customers and increasing their output.

Resale agents who buy in the Mid-Continent for northern distributors reported they had numerous buying orders at current prices, but no one to fill them. So far, buyers have not bid higher prices to see if they would attract offerings. No. 1 fuel oil was the grade most freely available in the Mid-Continent. Demand for this product as a heating oil was slow since most buyers prefer the heavier grades. The Nos. 2 and 3 oils were almost unobtainable for immediate shipment.

Heavy fuels were in good shape. Railroads and road builders were ordering out large quantities, keeping the market cleared of surplus.

* * *

NEW YORK, Sept. 5.—Several events of considerable interest took place in the eastern fuel oil markets during the week ended Sept. 5.

First was a reduction ranging from 0.125 to 0.625 cent a gallon in prices of No. 1 fuel oil at eastern seaboard terminals; second, an advance of 0.25 cent in prices of No. 4 oil at New York harbor, Baltimore and Providence; and third, elimination of the 10 cent a barrel allowance to coastwise steamship companies buying bunker fuel oil under contract.

The reduction in No. 1 fuel, initiated by Standard of New Jersey, was met by other companies marketing along the seaboard, although several stated they thought it brought the price too low and would make no effort to seek business. Some companies met the advance on No. 4 oil, which brought their tank car price to 4 cents a gallon, f.o.b. seaboard terminal, while others continued to sell this grade at 3.75 cents. Announcement of the change in the bunker oil setup came too late in the week to determine the attitude of other suppliers, but it was believed they all would follow a similar policy.

* * *

CHICAGO, Sept. 5.—As the Mid-Western fuel oil market entered September prices of all products were steady to higher. The improvement was not limited to any one part of the list, although heavy oils were not showing any tendency to move higher.

No. 1 fuel was gradually consolidating its position at slightly higher prices. While sufficient material moved last week at 3 cents to make this price still representative of the general market, nevertheless, some sellers held No. 1 at a minimum of 3.125 cents throughout the week.

Reports were that many buyers who had neglected to purchase requirements of fuel earlier were now actively inquiring for supplies as the heating oil season drew near. This was particularly true of Nos. 2 and 3 oils, sellers said.

FUEL OILS

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

Prices in Effect Sept. 7, 1936

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	7.25	6.50	6.50	6.50
Atlantic City, N. J.	8	6.5	6.5	6
Baltimore, Md.	8	6	6	5.5
Washington, D. C.	8.00	6.75	6.75	6.75

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

Socony-Vacuum Oil Co., Inc. (S. O. New York Division)				
New York City	7	6.50	6.50	6.00
Albany, N. Y.	7.75	6.50	6.50	6.25
Rochester, N. Y.	8.25	7.00	7.00	7.00
Boston, Mass.	7.5	6.50	6.50	6.50
Bangor, Me.	8	6.50	6.50	6.50
Manchester, N. H.	8	7.00	7.00	7.00
Burlington, Vt.	8.75	7.00	7.00	7.00
New Haven, Conn.	7.5	6.25	6.25	6.25
Providence, R. I.	7.00	6.50	6.50	6.00

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

Atlantic Refining				
Philadelphia, Pa.	7.25	6.00	6.00	5.00
Allentown, Pa.	7.75	6.50	6.50	6.50
Wilmington, Del.	7.25	6.00	6.00	5.50
Springfield, Mass.	7.50	6.00	....	6.00
Worcester, Mass.	7.75	6.75	....	6.75
Hartford, Conn.	7.00	6.50	....	6.50
S. O. Ohio				
*Ohio Statewide	8	7.50	7	6.75

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

S. O. Indiana

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	6.5	6.5
Indianapolis	....	*11.7
Detroit	6.8	6.8
Milwaukee	8	7.3
Minneapolis	7	7
Sioux City	7.8	7.1
St. Louis	7.5	6.8
Kansas City	7.2	6.5

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

Jersey Standard Revises Coastwise Bunker Setup

NEW YORK, Sept 8—The Standard Oil Co of New Jersey has changed its policy in regard to sales of Bunker C fuel for ships' bunkers at Atlantic Coast ports, it revealed today.

Effective, Sept 8, the company discontinued at North Atlantic ports the 10 cents a barrel allowance on bunker oil for ships, bunkers now given to ships in the coastwise service, and discontinued the allowance to all lines at ports south of Norfolk. The action was attributed to the present tight market on heavy domestic fuel oil, both on the Gulf Coast and at seaboard ports.

The company will continue the allowance at North Atlantic ports to steamships engaged in foreign service receiving bonded fuel oil, in order to prevent the transfer of bunkering of steamships engaged in the foreign trade from North Atlantic to foreign ports.

Present open market prices for Grade C bunker oil for ships' bunkers and shore plant delivery are $1.10 a barrel at most Atlantic ports.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Florida and S. Carolina inspection tax not included.)

*Motor Gasoline

Prices Sept. 8	60-64 Octane	65 Octane and Above
New York harbor	6.50 – 6.75	6.75 – 7.00
New York harbor, barges	6.25 – 6.50	6.50 – 6.75
Philadelphia district	6.50 – 6.75	6.75 – 7.00
Baltimore district	6.50 – 6.75	6.75 – 7.00
Norfolk district	6.50 – 6.75	7.00
Wilmington, N. C. district	6.75	7.00
Charleston, S. C. district	6.75	7.00
Savannah district	6.75	7.00 – 7.25
Jacksonville district	6.75	7.00 – 7.25
Portland district	7.25	7.50
Boston district	6.75 – 7.00	7.00 – 7.25
Boston district, barges	6.50 – 6.75	6.75 – 7.00
Providence district	6.75 – 7.00	7.00 – 7.25
Providence district, barges	6.50 – 6.75	6.75 – 7.00

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

Water White Kerosine

Prices Sept. 8			
New York harbor	4.25 – 4.375	Savannah district	5.25
N. Y. harbor, barges	4.125– 4.25	Jacksonville district	5.25
Philadelphia district	4.75	Portland district	5.125
Baltimore district	4.625	Boston district	4.625
Norfolk district	4.625	Boston dist., barges	4.50
Wilmington, N. C.	4.625	Providence district	4.625
Charleston, S. C. dist.	4.625	Providence, barges	4.50

*Fuel Oils

Prices Sept. 8	New York harbor	New York harbor, barges	Philadelphia district
No. 1	4.25 – 4.375	4.125– 4.25	4.75
No. 2	4.125– 4.25	3.875– 4.125	4.25
No. 3	4.125– 4.25	3.875– 4.125	4.25
No. 4	3.75 – 4.00	3.50 – 3.625	3.75 – 4.00
No. 5 (per barrel)	$1.30	.....	$1.30
No. 6 (per barrel)	$1.10	.....	$1.10

	Baltimore district	Boston district
No. 1	4.625	4.625
No. 2	4.25	4.25
No. 3	4.25	4.25
No. 4	3.75 – 4.00	4.25
No. 5 (per barrel)	$1.30	$1.40
No. 6 (per barrel)	$1.10	$1.10

	Boston dist., barges	Providence district	Providence dist., barges
No. 1	4.50	4.625	4.50
No. 2	4.125	4.25	4.125
No. 3	4.125	4.25	4.125
No. 4	4.125	3.75 – 4.00	3.625

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.10	*$1.65	4.25	4.25
Philadelphia dist.	*$1.10	*$1.65	4.25	....
Baltimore district	*$1.10	*$1.65	4.25	....
Norfolk district	*$1.10	*$1.785	4.25	....
Charleston district	*$1.05	$1.65	....	....
Savannah district	$1.05	$1.89	....	4.75
Jacksonville dist.	$1.05	$1.995	....	4.75
Tampa district	$1.05	$1.995	....	....
Portland district	$1.20	$1.75	....	....
Boston district	$1.10	*$1.65	....	....
Providence district	$1.10	$1.65	....	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	Sept. 8	Aug. 31	Aug. 24
53-55 U. S. Motor	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
400 e.p. blend 65 Octane and above	5.25 – 5.75	5.25 – 5.75	5.25 – 5.75
38-40 w.w. kerosine, 150 fire point	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00
41-43 w.w. kerosine	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime wh. kerosine	3.25 – 4.25	3.25 – 4.25	3.25 – 4.25
In Cargo lots, per barrel			
Diesel fuel oil, above 23.9°	$1.05 –$1.25	$1.05 –$1.25	$1.05 –$1.25
Diesel fuel oil, under 23.9°	$1.00 –$1.10	$1.00 –$1.10	$1.00 –$1.10
30-34 gas oil	$0.95 –$1.10	$0.95 –$1.10	$0.95 –$1.10
Grade C fuel oil	$0.75 –$0.90	$0.75 –$0.85	$0.75 –$0.90

Pacific Export (cont'd)	Sept. 8	Aug. 31	Aug. 24
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25
Diesel, under 23.9 gravity	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15
Grade C fuel oil	$0.90 –$0.95	$0.90 –$1.00	$0.90 –$1.00
Cased Goods:			
Gasoline, U. S. Motor	$1.30 –$1.50	$1.30 –$1.50	$1.30 –$1.50
Gasoline, 400 e.p. blend	$1.45 –$1.65	$1.45 –$1.65	$1.45 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.20 –$1.30	$1.20 –$1.30	$1.20 –$1.30
Kerosine, prime white	$1.15 –$1.25	$1.15 –$1.25	$1.15 –$1.25

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

Cylinder Oils (Pennsylvania Products)

Bright stock:			
Light, 25 pour point	28.00	28.00	27.50 –28.00
Dark, 25 pour point	27.50	27.50	27.00 –27.50
Neutral oil:			
200 3 color, 25 pour point	27.50	27.50	27.50
150 3 color, 25 pour point	24.00	24.00	24.00
600 Warren E filtered,	22.50 –23.00	22.50 –23.00	22.50
600 stm. rfd., unfiltered	20.00 –20.50	20.00 –20.50	20.00
650 stm. rfd. unfiltered	21.50	21.50	21.50
600 flash, steam refined	22.50	22.50	22.50
630 flash, steam refined	24.50	24.50	24.50

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk.)

	New York		New Orleans	
Prices—Sept. 8	*Domestic*	*Export*	*Domestic*	*Export*
124-6 Y.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
122-4 W.C. scale	2.35 – 2.40	2.35 – 2.40	2.35 – 2.40	2.35 – 2.40
124-6 W.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing traders' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Motor Gasoline

For Domestic Shipment

Prices—	Sept. 8	Aug. 31	Aug. 24
59 octane and below	5.50	5.50	5.50
60-64 octane number	6.00	6.00	6.00
65 octane and above	6.00 – 6.125	6.125	6.125

Fuel Oils

No. 1 Fuel oil	3.625– 3.75	3.625– 3.75	3.625– 3.75
No. 2 Fuel oil	3.25	3.25	3.25
No. 4 Fuel oil	3.125	3.125	3.125

Kerosine

41-43 w.w.	3.625– 3.75	3.625– 3.75	3.625– 3.75

Gasoline

For Export Shipment

U. S. Motor gasoline	5.25	5.25	5.25
60-62, 400 e.p. gasoline	5.375	5.375	5.375
61-63, 390 e.p. gasoline	5.375– 5.50	5.375– 5.50	5.375– 5.50
64-66, 375 e.p. gasoline	5.50	5.50	5.50

Kerosine

44 water white	4.125	4.125	4.125
41-43 water white	3.625– 3.75	3.625– 3.75	3.625– 3.75
41-43 prime white	3.625– 3.75	3.625– 3.75	3.625– 3.75

(Continued on next page)

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(*Continued from preceding page*)

Gas and Bunker Oils

For Domestic and/or Export Shipment

Prices—	Sept. 8	Aug. 31	Aug. 24
*26-30 translucent gas oil	3.125	3.125	3.125
*30 plus translucent gas oil	3.125	3.125	3.125
*30 plus transp. gas oil	3.125– 3.25	3.125– 3.25	3.125– 3.25
Diesel Oil Ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl.	†$0.90	†$0.90	†$0.90
Grade C bunker oil, per bbl. in cargoes	‡$0.85	‡$0.85	‡$0.85

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional. ‡Nominal.

Mexican Crude and Bunker Oils

(F.o.b. Steamer, Tampico)

Heavy Panuco crude taxes to be paid, per bbl.	$0.90	$0.90	$0.90
Grade C bunker oil, ships' bunkers, taxes paid, per bbl.	$0.90	$0.90	$0.90

*Nominal

Mid-Continent Lubricating Oils

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	26.50	26.50	26.50
150-160 vis. D. 210 bright stock			
0-10 pour point	23.50	23.50	23.50
10-25 pour point	23.00	23.00	23.00
25-40 pour point	22.50	22.50	22.50
150-160 vis. E 210 brt. stock	22.50	22.50	22.50
120 vis. D 210 bright stock	21.50 –22.00	21.50 –22.00	21.50 –22.00
180 vis. No. 3 color neutral Oil:			
0-10 pour point	17.25 –17.50	17.25 –17.50	17.25 –17.50
15-30 pour point	16.25 –16.50	16.25 –16.50	16.25 –16.50
200 vis. No. 3 color neutral oil:			
0-10 pour point	17.75 –18.00	17.75 –18.00	17.75 –18.00
15-30 pour point	16.75 –17.00	16.75 –17.00	16.75 –17.00

Mid-Continent Lubricating Oils (Cont'd)

Prices—	Sept. 8	Aug. 31	Aug. 24
600 s.r. olive green	12.50	12.50	12.50
600 s.r. dark green	11.00 –11.25	11.00 –11.25	11.00 –11.25
631 s.r.	18.00 –18.50	18.00 –18.50	18.00 –18.50

South Texas Lubricating Oils

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Vis. Color			
Unfiltered Pale Oils:			
100 No. 3	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
200 No. 3	6.375– 7.00	6.375– 7.00	6.375– 7.00
300 No. 3	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
500 No. 3½	7.875– 8.50	7.875– 8.50	7.875– 8.50
750 No. 4	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
1200 No. 4	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
2000 No. 4	9.75 –10.25	9.75 –10.25	9.75 –10.25
Red Oils:			
100 No. 5-6	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
200 No. 5-6	6.125– 6.75	6.125– 6.75	6.125– 6.75
300 No. 5-6	6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
500 No. 5-6	7.25 – 7.625	7.25 – 7.625	7.25 – 7.625
750 No. 5-6	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
1200 No. 5-6	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
2000 No. 5-6	9.75 –10.25	9.75 –10.25	9.75 –10.25

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shipments per ton of 2240 pounds. British sterling: to U. S. ports, cents per barrel)

Rates—Sept. 8	Crude &/or Fuel Oil Last Paid	Crude &/or Fuel Oil Owners Ask	Refined Oil &/or Spirits Last Paid	Refined Oil &/or Spirits Owners Ask
Calif. U.K./Cont.*	20/	20/-21/	18/	18/-19/
Gulf.-U.K./Cont.*	9/6	9/5-10/	11/6	12/-13/
Calif.-N. Atlantic (not E. of N. Y.)	....	‡55c	42c	‡55c
Gulf-N. Atlantic** (not E. of N. Y.)	†16c	†16-17c	18c	18-18.5c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate: Tampico 2c to 3c per bbl. additional.

†Rates for heavy crude or fuel 1c to 2c higher than for light crude.

‡Nominal.

COMING MEETINGS

(*Continued from page 9*)

ing Grease Manufacturers, Inc., Stevens Hotel, Chicago, Ill., Oct. 12 and 13.

American Institute of Mining and Metallurgical Engineers, Statler Hotel, Cleveland, Ohio, Oct. 19 to 23.

Indiana Independent Petroleum Association, fall convention, Hotel Severin, Indianapolis, Ind., Oct. 21 and 22.

Association of Gas Appliance and Equipment Manufacturers, first annual convention and exhibit during 18th annual convention of American Gas Association, Atlantic City Auditorium, Atlantic City, N. J., Oct. 25 to 30.

Oil Trades Assn. of New York, annual banquet, Waldorf Astoria Hotel, New York, Oct. 27.

National Oil Marketers Association, annual convention, Stevens Hotel, Chicago, Ill., Oct. 27 to 29.

American Institute of Mining-Metallurgical, Western Meeting, Mexico City, Mexico, sometime in November.

American Petroleum Institute, 17th annual meeting, Stevens Hotel, Chicago, Nov. 9 to 12.

National Automobile Show, Grand Central Palace, New York, N. Y., Nov. 11 to 18.

Society of Automotive Engineers, annual dinner, New York City, Nov. 12.

Independent Petroleum Association of America, annual meeting, Biltmore Hotel, Oklahoma City, Okla., Nov. 30 and Dec. 1.

First International Consumers Petroleum Exposition, Convention Hall, Detroit, Mich., Dec. 5 to 13.

National Exposition of Chemical Industries, Grand Central Palace New York City, Dec. 6 to 11.

1937

Northwest Petroleum Association, North Dakota division, Patterson Hotel, Bismarck, Jan. 18, 19.

Northwest Petroleum Association, Minnesota division, West Hotel, Minneapolis, Jan. 21, 22.

Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

TANK WAGON CHANGES

(*Continued from page 61*)

low normal, Sept. 4. T.w. and dealer prices also cut 0.3c in Iowa, where company does not post s.s. prices.

Red Crown unchanged at Chicago, Detroit, Grand Rapids, Saginaw, Milwaukee; Wichita, s.s. unchanged; and Joliet s.s. only cut 0.5c. Stanolind t.w. unchanged at Des Moines, Mason City, Detroit, Saginaw, Milwaukee, Huron and Wichita; s.s. unchanged at all points carried in N.P.N. table except Huron and Minneapolis cut 0.3c.

S.s. in Indiana, Minnesota, Missouri, South Dakota and Wisconsin, which have been below normal levels, advanced to normal, Sept. 9, except several towns in Indiana adjacent to Metropolitan Chicago.

Kerosine:

T.w. cut 0.9c, thru territory, with such points unchanged as were 0.9c below normal, Sept. 4; unchanged at Joliet, Indianapolis, South Bend, Detroit Grand Rapids Saginaw Kansas

(*Continued on page 69*)

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

Eastern Fields

Posted by Joseph Seep Purchasing Agency

(Effective Jan. 13, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.17
Penna Grade Oil in Eureka Pipe Lines (West Virginia).....$2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$1.97
Corning Oil in Buckeye Pipe Lines (Ohio) $1.42

Posted by Other Companies

Tide Water Pipe Co., Ltd.
Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936)..$2.45
*The Pennzoil Co.: (Effective Jan. 13, 1936)
Penna. Grade Oil in National Transit Lines*.....$2.42
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 9, 1936)
Big Sandy River.....$1.30
Kentucky River.....$1.38

*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

Michigan

Posted by Pure Oil Co.

Midland, Midland County (June 15, 1936) $1.42

Posted by Simrall Pipe Line Corp.

(Effective June 15, 1936)

West Branch and equal grades.....$1.26
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.42

Central States Fields

Posted by Ohio Oil Co.

(Effective Jan. 9, 1936)

Illinois, Princeton, Western Kentucky..$1.23

(Effective Jan. 10, 1936)

Lima.....$1.25

Posted by Stoll Oil Refining Co.

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.).....$1.28

Canadian Fields

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

Crude:		Naphtha:	
40-44.9	$1.55	†Clear	$2.70
45-49.9	$2.12	†Discolored	$2.46
50 and above	$2.32		

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

Mid-Continent

Posted by Stanolind Crude Oil Purchasing Co.

(Effective Jan. 9, 1936)

(In Oklahoma Kansas)	(In North-North Central Texas)
Below 29.....$0.94	$0.84
29-29.9..... 0.96	0.86
30-30.9..... 0.98	0.88
31-31.9..... 1.00	0.90
32-32.9..... 1.02	0.92
33-33.9..... 1.04	0.94
34-34.9..... 1.06	0.96
35-35.9..... 1.08	0.98
36-36.9..... 1.10	1.00
37-37.9..... 1.12	1.02
38-38.9..... 1.14	1.04
39-39.9..... 1.16	1.06
40 and above..... 1.18	1.08

Above Stanolind prices met as follows: Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 9, 1936)

Below 25	$0.86	33-33.9	$1.04
25-25.9	0.88	34-34.9	1.06
26-26.9	0.90	35-35.9	1.08
27-27.9	0.92	36-36.9	1.10
28-28.9	0.94	37-37.9	1.12
29-29.9	$0.96	38-38.9	$1.14
30-30.9	0.98	39-39.9	1.16
31-31.9	1.00	40 and above	1.18
32-32.9	1.02		

Jan. 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Posted by Magnolia Petroleum Co.

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

Posted by Humble Oil & Refining Co.

Texas Fields

(*West Central Texas)

(Effective Jan. 9, 1936)

Below 29	$0.84	35-35.9	$0.98
29-29.9	0.86	36-36.9	1.00
30-30.9	0.88	37-37.9	1.02
31-31.9	0.90	38-38.9	1.04
32-32.9	0.92	39-39.9	1.06
33-33.9	0.94	40 and above.	1.08
34-34.9	0.96		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*East Central Texas

(Effective Jan. 9, 1936)

Below 29	$0.91	35-35.9	$1.05
29-29.9	0.93	36-36.9	1.07
30-30.9	0.95	37-37.9	1.09
31-31.9	0.97	38-38.9	1.11
32-32.9	0.99	39-39.9	1.13
33-33.9	1.01	40 and above.	1.15
34-34.9	1.03		

*Including Anderson, Cherokee, Limestone, Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

Panhandle Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

	Gray County	Carson-Hutchinson
Below 35	$0.86	$0.81
35-35.9	0.88	0.83
36-36.9	0.90	0.85
37-37.9	0.92	0.87
38-38.9	0.94	0.89
39-39.9	0.96	0.91
40 & above	0.98	0.93

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

East Texas

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia.....$1.15

Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

West Texas and New Mexico

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas, and Lea county, New Mexico).

Below 29	$0.75	33-33.9	$0.84
29-29.9	0.76	34-34.9	0.86
30-30.9	0.78	35-35.9	0.88
31-31.9	0.80	36 & above	0.90
32-32.9	0.82		

Pecos, West Texas.....$0.85

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80.

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

Northeast Texas

(Posted by Humble, April 15, 1936)

Talco.....$0.60

(Posted by Magnolia, May 1, 1936)

Cass County (Rodessa field):
Below 29.....$0.86
29-29.9..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

South and Southwest Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

Darst Creek	$0.97	Pettus	$1.25
Salt Flat	0.97	Tomball	1.30
Saxet	0.90	Mirando	0.85

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

Anahua (Chambers county) and Dickinson (Galveston county)

(Effective Jan. 9, 1936)

30-30.9	$1.04	36-36.9	$1.16
31-31.9	1.06	37-37.9	1.18
32-32.9	1.08	38-38.9	1.20
33-33.9	1.10	39-39.9	1.22
34-34.9	1.12	40 & above	1.24
35-35.9	1.14		

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $0.85 for Mirando; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex.

Posted by Humble

Conroe and Raccoon Bend

(Deep sand crudes)

(Effective Jan. 9, 1936)

35-35.9	$1.24	38-38.9	$1.30
36-36.9	1.26	39-39.9	1.32
37-37.9	1.28	40 & above	1.34

Jan. 9, Texas Co. met above prices.

North Louisiana-Arkansas

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado, and Miller county).

Below 25	$0.78	33-33.9	$0.96
25-25.9	0.80	34-34.9	0.98
26-26.9	0.82	35-35.9	1.00
27-27.9	0.84	36-36.9	1.02
28-28.9	0.86	37-37.9	1.04
29-29.9	0.88	38-38.9	1.06
30-30.9	0.90	39-39.9	1.08
31-31.9	0.92	40 and above.	1.10
32-32.9	0.94		

Smackover, Ark.....$0.75
Nevada, Ark..... 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) 0.87
Tepetate, La. (Continental Oil, Jan. 9, '36)$1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1.12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 & above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(Continued on next page)

Contract For Three Years Aviation Fuel Supply

NEW YORK, Sept. 3.—A three-year contract calling for minimum deliveries of 27,000,000 gallons of aviation gasoline has been placed with the Colonial Beacon Oil Co. and other subsidiaries of the Standard Oil Co. (N. J.) by the United Air Lines, it was announced today.

The contract calls for a special 87 octane gasoline. Deliveries will be made at airports in 37 cities in 15 states for use on United's New York-Chicago-California and Seattle-San Diego planes.

The planes now in use on United's over-night coast-to-coast flights are twin-engined transports which together burn 63 gallons of gasoline an hour and consume approximately 1000 gallons on the 16 hour flight.

The air line will soon put into service some new 21 passenger twin-engined Douglas transport planes which will consume 88 gallons of gasoline per hour, it was announced.

Wins Golf Cup

NEW YORK, Sept. 3.—H. B. Van Cleve, Maritime Petroleum Corp., became the first winner of the Fuel Oil Association's golf cup when he scored a low net of 73 at the association's fall golf outing held at the Rockwood Hall country club, Tarrytown today. The cup, donated by W. C. McTarnahan, Petroleum Heat & Power Co., treasurer of the association, must be won three times before possession is secured permanently. Mr. McTarnahan had a low net of 72, but as donor was barred from the competition. H. W. Weinstein, Preferred Oil Co., won second low net prize.

Approximately 50 members and guests took part in the day's outing.

Twin City Golf Party Set For Sept. 15

MINNEAPOLIS—The "All Oil Industry" golf tournament will be held Sept. 15 at the Westwood Hills Golf club, Minneapolis.

This is the annual fall golf party of the Twin City Petroleum Club. The club is arranging many prizes for prowess with golf clubs and some prizes for those lucky in drawings.

Golf play will start in the early afternoon. In the evening there will be a banquet at the club, followed by entertainment.

CRUDE OIL MARKETS

(Continued from preceding page)

*Gulf Coastal Fields

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

Below 18	$0.88	26-26.9	$1.06
18-18.9	0.90	27-27.9	1.08
19-19.9	0.92	28-28.9	1.10
20-20.9	0.94	29-29.9	1.12
21-21.9	0.96	30-30.9	1.14
22-22.9	0.98	31-31.9	1.16
23-23.9	1.00	32-32.9	1.18
24-24.9	1.02	33-33.9	1.20
25-25.9	1.04	34 and above	1.22
Refugio heavy	$0.90		

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland, and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

Rocky Mountain Fields

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas which see.

Grass Creek, heavy	$0.72
Greybull-Torchlight	1.23
Iles, light, Col.	1.06
Iles, heavy	1.00
Hogback, N. M.	1.21
Frannie light (Effective Feb. 24, '36)	0.78
Frannie heavy	0.72
Hamilton Dome, Wyo.	0.67

(Effective July 20, 1936)

Elk Basin, light	$1.18
Grass Creek, light	1.18

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

Posted by Ohio Oil Co.

(Effective July 20, 1936)

Elk Basin, Wyo.	$1.18
Grass Creek, light	1.18

(Effective Jan. 9, 1936)

Rock Creek	$1.12
Big Muddy	1.11

(Effective June 5, 1936)

Sunburst, Mont.	$1.15

Posted by *International Refg. Co.

(Effective June 5, 1936)

Cut Bank, Mont.

Below 35°	$1.29	38-38.9	$1.37
35-35.9	1.31	39-39.9	1.39
36-36.9	1.33	40 and above	1.41
37-37.9	1.35		

*Texas Co. subsidiary.

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Cat Creek, Mont.	$1.28

CALIFORNIA, Posted by Standard Oil of California

All gravities above those quoted take highest price offered in the field. Effective Feb. 26, 1936 except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.70	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	.66	.74	.71	0.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	.77	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.20	.95	....	.89	.99	.86	....	.88	1.01	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	.97	1.18	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	.99			
32-32.9	*Elwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.02	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.04	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

F.O.B. Standard Pipe Line

*F. o. b. ship.
‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

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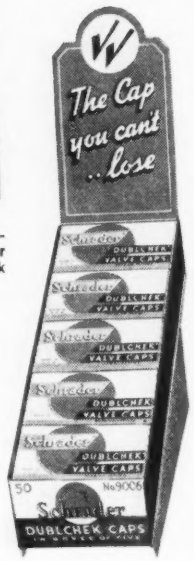

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NEW PATENTS

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

August 25, 1936

REFINING

Polymerization of olefines—Vladimir Ipatieff and Vasili Komarewsky, Chicago, Ill., assignors to Universal Oil Products Co. Filed May 26, 1934. No. 2,051,859.

Process of improving gasoline—Roland B. Day, Chicago, Ill., assignor to Universal Oil Products Co. Filed Feb. 27, 1931. No. 2,051,939.

Process of separating paraffin from fluid hydrocarbons—Gustav H. Anderson, Stockholm, Sweden. Filed Apr. 12, 1934. No. 2,052,124.

Process for conversion of heavy hydrocarbon oils into lower boiling point hydrocarbn products—Ernest A. Ocon, New York, N. Y. Filed Dec. 27, 1933. No. 2,052,148.

Process for treating lubricating oils with phenol at high temperatures—Reginald K. Stratford, Sarnia, Ont., Canada, assignor to Standard Oil Development Co. Filed Oct. 18, 1933. No. 2,052,196.

Material for use in oil refining and method of making it—Ralph W. Miller, Barberton, Ohio, assignor to Pittsburgh Plate Glass Co. Filed Apr. 29, 1933. No. 2,052,239.

Processes for breaking petroleum emulsions—Melvin De Groote, St. Louis Mo., assignor to Tretolite Co. Filed Dec. 21, 1935, and Jan. 24, 1936. Nos. 2,052,281, 2,052,282, 2,052,283, and 2,052,284.

Process for selective cracking of hydrocarbons—Joseph F. Donnelly, Lemont, Ill., assignor to Dinnelly Process Corp., Chicago, Ill. Filed Mar. 15, 1935. No. 2,052,340.

Art of converting hydrocarbon oils—Robert F. Ruthruff, Hammond, Ind., assignor to Standard Oil Co. (Ind.). Filed Aug. 4 1930. No. 2,052,518.

MISCELLANEOUS

Tree surgery—Howard L. Gerhart, Whiting, Ind., assignor to Standard Oil Co. (Ind.). Filed Oct. 31, 1935. No. 2,051,840.

Production of thioethers and saturated hydrocarbons from mercaptans—Clyde C. Allen, Berkeley, Calif., assignor to Shell Development Co., Filed Mar. 18, 1935. No. 2 051,807.

Treatment of motor fuel—Wayne L. Benedict, Chicago, Ill., assignor to Universal Oil Products Co. Filed Aug. 25, 1933. No. 2,051,814.

Treatment of motor fuel—Charles D. Lowry, Jr., Chicago Ill., assignor to Universal Oil Products Co. Filed Apr. 30, 1934. Nos. 2,051,871, 2,051,872, and 2,051,873.

Apparatus for heating fluids—Lev A. Mekler, Chicago, Ill., assignor to Universal Oil Products Co. Filed Nov. 6, 1935. No. 2,051,880.

Apparatus for compounding lubricating oils—Clive M. Alexander, Webster Groves Mo. Filed May 23, 1931. No. 2,051,932.

Compositions of matter and petroleum products and method of making—Orland M. Reiff, Woodbury, N. J., assignor to Socony-Vacuum Co. Filed May 23, 1935. No. 2,052,003.

Preventing foaming of emulsions—Hyym E. Buc, Roselle, N. J., assignor to Standard Oil Development Co. Filed Dec. 27, 1933. No. 2,052,164.

Separation of saponifiable from un-

saponifiable compounds — Egbert W. Carrier and Edward D. Reeves, Baton Rouge, La., assignors to Standard Oil Development Co. Filed Dec. 22, 1932. No. 2,052,165.

Treating and impregnation of wood —Per K. Frolich, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Feb. 11, 1932. No. 2,052,172.

Paint containing cracked tar resin—Per K. Frolich, Carl Winning, and Stewart C. Fulton, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Mar. 14, 1932. No. 2,052,173.

Stabilizing dyed hydrocarbon liquids —Nathaniel H. Rickles, Roselle, N. J., assignor to Standard Oil Development Co. Filed Dec. 30, 1933. No. 2,052,193.

Production of oxygenated organic compounds—Helmuth G. Schneider and Julius V. Sommer, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Aug. 24, 1932. No. 2,052,195.

TANK WAGON CHANGES

(*Continued from page 65*)

City and Wichita; Evansville cut 1.1c.

S. O. Nebraska—Red Crown and Reliance:

Cut 0.3c, thru Nebraska, except at points where prices were below normal, Sept. 5. Unchanged on Reliance gasoline were Omaha, and s.s. in McCook.

Kerosine:

Cut 0.9c, thru Nebraska, except at points where prices were below normal, Sept. 5.

Continental Oil—Conoco Bronze and Aviation:

Albuquerque up 0.5c, Sept. 2.

Demand:

Albuquerque up 2c, Sept. 2.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

S. O. New York—Mobilgas:

Cut of 0.5c Bangor and Manchester reported on page 62, Aug. 12 issue was an advance, June 11. Prices in table were correct.

Portland, t.w. up 0.5c, June 11.

S. O. New Jersey:

Service stations at Mt. Airy, N. C., transferred to dealers, Aug. 7, and at Parkersburg, W. Va., Aug. 21.

Atlantic Refining—White Flash Plus:

Allentown t.w. cut 0.25c, s.s. 0.5c, Aug. 28.

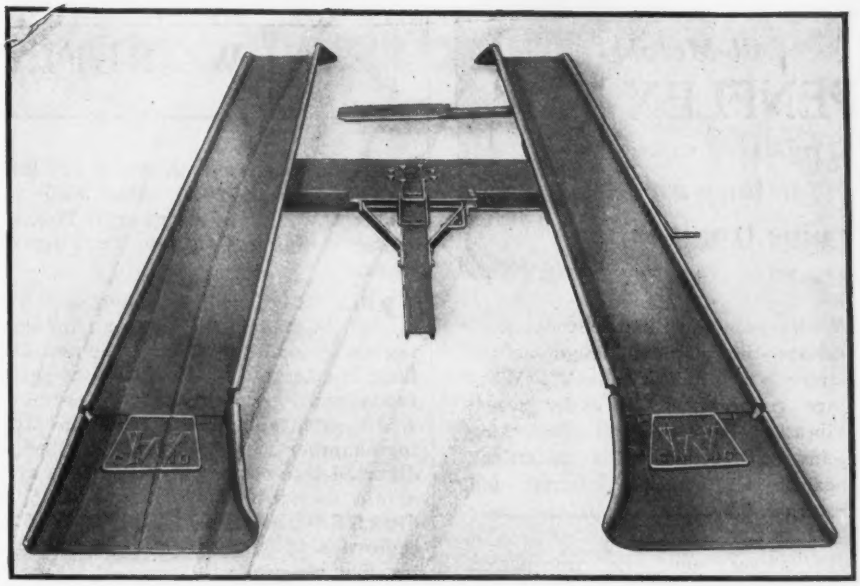
S. O. Nebraska—Reliance:

McCook thru error t.w. and s.s. was carried at 16.9c, instead of t.w. 18.1c and s.s. 18.9c, since July 22.

S. O. Louisiana—Essolene and Kerosine:

New Orleans, up 1c, due to additional 1c Parish tax, Aug. 31.

Service stations at Bristol, Tenn., transferred to dealers, Aug. 1, and at Little Rock, Ark., July 27.



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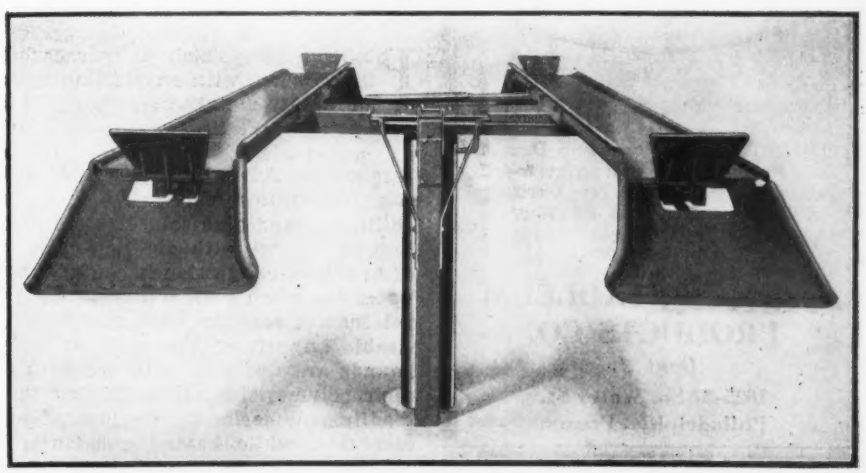

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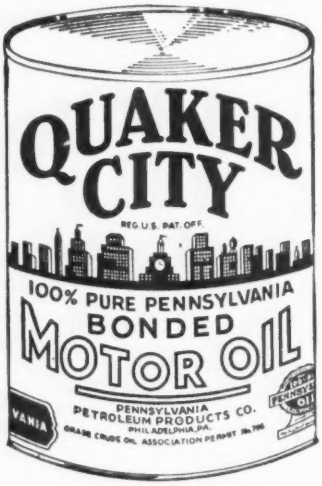

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Philadelphia, Penna.

NEW REFINING PATENTS

Decolorizing control. No. 2 047 985, issued July 21, 1936; filed June 10, 1931; H. M. Weir, assignor to The Atlantic Refining Co.; one drawing; 2 claims.

PROCESS in which a photo-electric cell is made to operate an indicating and recording device in the decolorizing treatment. In a continuous process a small portion of the stream of acid-treated oil enroute from the mixing chamber to the settling chamber is diverted into contact with gaseous ammonia to neutralize excess acid. The diverted stream is preferably filtered to remove acid sludge before neutralizing. The stream is then passed between a light source and a light sensitive cell from which electric energy is generated in proportion to the light received through the oil and so is made to control automatically the decolorizing treatment.

* * *

Reclamation. No. 2 048 140, issued July 21, 1936; filed Nov. 16, 1931; P. B. Renfrew and L. E. Marsh, assignors to S. F. Bowser & Co.; 7 drawings; 8 claims.

PROCESS for removing carbon, coke, paraffin wax, dust, crude oil, grease, acids, acid compound, moisture, sludge, unstable compounds, heavy fractions and undesirable constituents from oils or solvents. One of the objects is to adapt the process to the reclamation of absorption oils line from natural gas.

Heated air and steam are passed through and agitate the oil which contains some monobasic alkali. The air oxidizes certain constituents resulting in some polymerization. The desirable portion is vaporized and collected.

* * *

Treatment. No. 2 048 169, issued July 21, 1936; filed May 19, 1934; N. D. Scott, assignor to E. I. du Pont de Nemours & Co.; no drawing; 12 claims.

PROCESS in which a hydrocarbon is contacted with an addition agent of an alkali metal compound and a polycyclic aromatic hydrocarbon such as naphthalene, diphenyl, phenanthrene, etc. Advantages are said to be easy preparation of the refining agent, ability to handle as solutions, no ignition in contact with air, no evolution of hydrogen or ignition in contact with water (as when sodium alone is used), yet instant reaction with many undesirable impurities. The addition compounds are also said to be selective in their polymerizing action in that they readily polymerize the conjugated unsaturates, while having substantially no polymerizing action on non-conjugated unsaturates.

* * *

Stabilization. No. 2 047 355, issued July 14, 1936; filed July 26, 1933; E. G. Borden, assignor to Gasoline Antioxidant Co.; no drawing; 7 claims.

A MOTOR fuel comprising cracked gasoline incorporating a small amount of polyhydroxy benzene having an alkyl containing from eight to ten carbon atoms attached to a carbon atom of the benzene nucleus to retard gum formation. The use of catechol, pyrogallol, decyl pyrogallol, alpha-ethyl - hexyl - pyrogallol, ethyl - octyl-pyrogallol, and octyl pyrogallol are also covered in the patent.

* * *

Dewaxing. No. 2 047 412, issued July 14, 1936; filed Jan. 11, 1935; H. H. Gross and W. V. Overbaugh, assignors to The Texas Co.; no drawing; 4 claims.

SOLVENT dewaxing process in which a solvent of the character of methyl isobutyl ketone is employed as the dewaxing solvent. The compound has the chemical formula:—$(CH_3)_2$ $CHCH_2$ $COCH_3$, and may comprise a commercial grade having a specific gravity of about 0.799 to 0.804 at 20/20 C. with a boiling point of 113-119 C.

* * *

Lubricating oil. No. 2 047 780, issued July 14, 1936; filed March 5, 1934; Victor Henny, assignor to Universal Oil Products Co.; no drawing; 4 claims.

PROCESS for improving straight-run lubricating oil by blending with a mildly oxidized lubricating oil derived from the liquid residue of hydrocarbon oil cracking.

* * *

Sweetening. No. 2 048 241, issued July 21, 1936; filed March 30, 1933; M. P. Youker, assignor to Phillips Petroleum Co.; one drawing; 7 claims.

REMOVAL of hydrogen sulfide without the use of chemicals or water washing. Vacuum is applied at low temperature to vaporize the hydrogen sulfide and the vapors, including some light hydrocarbons are rectified. The patent also covers the apparatus used.

* * *

Dewaxing. No. 2 048 244, issued July 21, 1936; filed Dec. 18, 1933; U. B. Bray and D. E. Carr, assignors to Union Oil Co.; one drawing; 10 claims.

METHOD of easily removing the wax precipitated on filter plates by treating to evaporate the diluent, such as liquid propane, thereby leaving the wax in a condition in which it is readily removable.

INTERESTING TRADE ITEMS

Enameling Stock

William Hogenson has been named special representative on Toncan Iron enameling stock, according to an announcement by F. H. Ramage, manager of sales promotion, Republic Steel Corp. His work will be in conjunction with that department under the new Product Development Division.

Mr. Hogenson has had a close association with the Enameling industry through his most recent connection, Chicago Vitreous Enamel Products Co.

* * *

Specialty Consultants

NEW YORK—C. L. Skinner, formerly in charge of specialty sales for the Warner-Quinlan Co., New York, has formed an organization to offer oil companies an advisory service on specialty sales. The new organization is to be known as Specialty Associates. Offices are to be in the Chrysler Bldg.

* * *

Drilling Bits Set Record

The introduction of the hard-facing process, slightly over a decade ago, is said to have practically revolutionized oil well drilling practice. In 1924, Haynes Stellite, a non-ferrous cobalt-chromium-tungsten alloy was first applied to the cutting edges of drilling bits.

Recently a bit hard-set and hard-faced with tungsten carbide, introduced in 1928, was used in a well in the Tomball Field, Texas, drilling from 958 to 3967 feet in 60 hours, an average rate of over 50 feet per hour. Two other bits carried the drilling to 5495 feet in 43 hours. No reaming whatsoever was necessary to set the casing, it is said.

* * *

Moves Offices

The New York office of the Timken Steel & Tube Co., Arthur R. Adelberg, district manager, will after Sept. 15 be located at 165 Broadway, Room 1000. Mr. Adelberg formerly had his office in The Timken Roller Bearing Co. offices at 16 W. 60th St.

* * *

Spiral Welded Pipe

The American Rolling Mill Co., Middletown, Ohio, has published a booklet, "Spiral Welded Pipe in the Oil and Gas Industry," with much data on pipes, fittings, flanges, and couplings. Sizes, strengths, and pressures as well as corrosion are covered in the book; also coatings, field installation data, and car loading data.

Here's proof

OF PROFITS

"How's business?" we asked . . . and here are some of the enthusiastic answers we received from jobbers handling Freedom Oils. They prove beyond a doubt that a jobber looking for a profitable and business building motor oil can't go wrong with one of the popular Freedom brands.

Take advantage of the profit opportunities of these four sales winners. Write for details.

"The first year we used Fort Pitt Motor Oil our sales nearly doubled every six months. This year we show an increase of approximately 50%.

"We attribute the success we are having to the fine quality of the oil . . . increased sales are not due to increased sales efforts but to the quality of the oil which is getting us new and repeat business . . ."

GRAHAM MOTOR OILS
Houston, Texas

☆ ☆ ☆

"For more than thirty years we have been buying oils from The Freedom Oil Works Company . . . and if there is a refinery in the Pennsylvania field that produces a better line of lubricating oils, we have not been able to find it.

"When it comes to quality, FREEDOM is right on top . . . Our experience with Freedom has always been pleasant and it is our frank opinion that you couldn't tie up with a better refinery."

CRESCENT OIL COMPANY
Baltimore, Md.

THESE are just two of the many letters we received but they are typical stories of the success jobbers have enjoyed in marketing the high quality Freedom brands. Produced from 100% Pennsylvania Crude, super-refined by an improved solvent process and attractively packaged in lithographed, refinery-sealed containers, these motor oils prove real sales winners for the jobber. They may also be obtained in bulk. Write today for further details of these sales-winning motor oils and our exclusive sales territory plan.

100% PURE PENNSYLVANIA OIL

FREEDOM

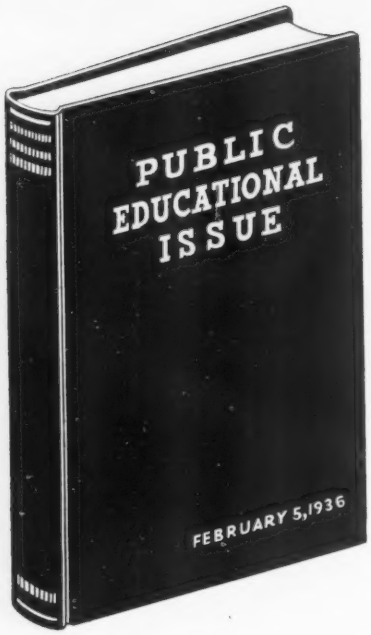
THE FREEDOM OIL WORKS CO.
121 THIRD STREET - FREEDOM, PA.

THE FREEDOM OIL WORKS CO.
121 Third Street, Freedom, Pa.
Gentlemen:
Send me particulars about the new Freedom Solvent Processed Oils.

Name .....

Address .....

City .....



HOW big is the oil industry? How many people does it employ? What is the extent of the oil industry's payroll?

How much crude oil has been taken from the earth? How much oil is there left in the ground? What will we do for motor fuel if all the crude oil were exhausted?

You will find the answers to these questions and hundreds of others . . . in the February 5th Public Educational Issue of NATIONAL PETROLEUM NEWS.

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LETTERS TO THE EDITOR

Jobbers Need Help

Dear Editor:

I am attaching hereto copy of a letter sent by me to Mr. P. H. Schroeder under date of July 28, 1936.

As some 30 days have passed without even receiving an acknowledgment from the gentlemen I thought you might be interested in the views of one individual who was simple-minded enough to accept the word of his fellow members of the committee that they were sincere in their efforts to do something for the benefit of all branches of the industry.

Knowing the efforts that you have put forth on behalf of the jobbers in recent years I wonder if you are going to sit idly by when they need your help worse than they have ever needed it before.

R. M. McNeily, Refiners Petroleum Co., Chicago

The Letter

Mr. P. H. Schroeder, Chairman
Industrial Code Conference
For the Marketing Division of the Petroleum Industry
Minneapolis, Minn.

Dear Sir:

As a member of the original committee called to draft and present a code of fair trade practices for the Marketing Division of the Petroleum Industry may I register a complaint against the methods employed in securing endorsement of the proposed code for submission to the Federal Trade Commission. I am absolutely convinced that the jobbers and the carload marketers will not receive any protection under this code.

Originally, as you will recall, the meeting called by the group of Independent Refiners was vitally interested in a workable plan whereby no branch of the industry would benefit to the detriment of another. We all knew that the jobbers and the carload marketers were in distress and needed some protection under the code to alleviate the conditions. As is usual, the lobbyists started to work with the result that between the Majors and the Dealers all else seems to have been forgotten.

The Wholesale Petroleum Marketers Association, whom I represent, have not endorsed this code nor will they until such time as they are convinced that you and your committee intend to adhere to the Preamble of the Code as written Feb. 27, 1936.

I contend that monopolistic practices are worse today than they were six months ago, that free enterprise is being stifled and that no effort is being openly made by you or any member of your committee to remedy this situation. Until this condition is changed, the carload marketers will stand by the jobbers with all the strength and ability which they may possess.

I am convinced that recovery, in the true sense of the word, cannot take place until such time as the present leaders of our industry and the men who are advocating codes for the betterment of this industry state openly their true objective. Are we headed for complete monopoly or free dealings? Must we have Major companies and organized Dealers directing our industry or are we big enough to pull together? It is either pull together or pull apart and thus give some egotistical politician the opportunity of stepping in to run our business into the ground.

While not a member of your present Standing Committee I would like to withdraw my name from all connection with any committees which it may be on at present, and also withdraw my personal endorsement of the proposed code.

(Signed) R. M. McNeily
Refiners Petroleum Company
Chicago

* * *

Gasoline Stock Increases

Dear Editor:

We note in your August 26 issue, page 50, that you comment on the stocks of gasoline for the first and second weeks of August in the last paragraph of the first column. We presume that the figures you have used are the following:

	1936	1935	Difference
August 8	59,552,000	52,184,000	5,368,000
August 15	57,485,000	51,552,000	5,933,000

These differences are about those your article mentions.

We wish to draw your attention, however, to a very important error in comparing these figures which has been called to our attention. Last year the American Petroleum Institute reports did not include any estimate of unreported gasoline but we have a method of determining approximately what these amounts were which we give below:

Stocks July 27	54,169,000
Aug. 2	54,141,000
Approximate July 31	54,150,000
Actual Report from the Bureau of Mines, July 31	56,446,000
Unreported	2,296,000

The last unreported figures by the A.P.I., which are arrived at by using the identical method as that illustrated above, on the last known month for which a Bureau of Mines report was then available shows unreported as

HAYS Double Seals

It's copper to copper with no intermediate sealing agent required

For a Mechanically Stronger

COPPER Pipe JOINT

From Tank to Pumps, for Air Lines, for Water and Oil Lines specify Hays Double Seals and copper pipe. A patented 2-faced flare (45° plus 90°) fits over two machined seats to make a copper pipe joint that will hold till "Hell freezes over". It's approved by Underwriters' Laboratories.

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Specify HAYS DOUBLE SEALS

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Erie, Pa.

MORRISON BROS.

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Where hose is the delivery medium from the truck tank to the underground tank . . . use this MORRISON Quick Detachable Coupling. Unusually speedy but makes a tight connection that cannot be jarred or shaken loose. Characteristic of all MORRISON Brass . . . it is extremely sturdy. In sizes of 1½", 2" and 3".

Write for FREE FOLDER and PRICES.

MORRISON BROTHERS COMPANY *Oil Equipment Headquarters*
DUBUQUE, IOWA

Kerosene

There is a decided difference in what is commonly called Penna. 45-46 gravity Kerosene. All materials supplied by Berry's are water white in color, both treated and filtered, and possess a distillation range which assures even burning qualities.

Kerosene Distillate, Furnace and Fuel Oils are also available from our Penna. refineries and seaboard terminals. We ask that you favor us with your inquiries when placing your requirements for the coming heating season.

JAMES B. BERRY SONS' CO., INC. OIL CITY, PA.

Branch Offices: New York City; Chicago, Ill.; Boston, Mass.; Philadelphia, Pa.; London, England; Hamburg, Germany; The Hague, Holland.

Refineries: Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
Ocean Terminals: Baltimore, Md.; Tiverton, R. I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.

4,468,000. The figure of 4,198,000 for unreported for August 8 was incorrect and revised in their subsequent issue to 4,468,000 as appears on the August 15 issue.

From the above, therefore, you will note that whereas the *reported* figures indicate an increase of approximately 6,000,000 barrels over the previous year that the total increase that the Bureau of Mines will most likely indicate including the difference in the unreported will be 8,000,000 barrels or specifically for August 15 the way we would figure it would be as follows:

Increase in Reported Figures	5,933,000
Increase Unreported Figures	2,172,000
Total Increase	8,105,000

We thought that you would like to have this information so as to guard against giving the oil industry misleading figures and it is only with the idea of keeping these comparisons as nearly as possible on a correct basis that we are drawing this to your attention.

Yours very truly,
A. J. McIntosh,
Socony Vacuum Oil Co.
New York, N. Y.

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Anti-Knock Pressure 400 End Point
60-62 Better than U.S. Motor
60-62 Under 400 End Point
64-66 Under 375 End Point
68-70 Under 360 End Point
42-44 W.W.D.T. Kerosene
38-40 Light Straw Zero Distillate
32-36 Overhead uncracked Gas Oil
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MINNEAPOLIS, MINN.

REFINERIES: CUSHING & BLACKWELL, OKLAHOMA

Robinson-Patman Bill

Dear Editor:

I have read your circular letter of August 3, and the reprint from the NATIONAL PETROLEUM NEWS, issues of July 22 and 29, with reference to the Robinson-Patman law with much isterest. This law and its administration etc., contains no difficulties for this writer. It is, and ever has been, my policy to post prices in PLAIN figures, that all and sundry might acquaint themselves therewith, and then sell them all, without regard to race, religion or previous condition of servitude, at EXACTLY those prices and EXACTLY same terms.

The only regrettable feature I can conjure up in connection with the matter is that American business has been conducted on such a low plane as to make the enactment of such legislation necessary. To my way of thinking there is but slight distinction between selling same goods to same class of buyers in like quantities and like terms at different prices, and hijacking and porch climbing. Only a mongrel cur will "gyp" those who have confidence in his sense of fair dealing by selling his wares, in like quantities, terms, etc., to the chiselers and Shylocks at a lesser price. I do not feel that the petroleum business has any more of this breed relatively than other industries, but it has been one of the chief marvels of existence how some of them, with such limited intellectual ability, can find their way about with at least fifteen different prices for ten customers.

If the Robinson-Patman law can exterminate this breed of vermin, in all lines, without wrecking contemporary standards of morals and practices in our penal institutions, power to it.

Perry Woods
Greenville, S. C.

* * *

Greed in Government Bids

Dear Editor:

Your magazine is of great help and we greatly appreciate your attitude and comments on the price and greed the major companies are extending to the Federal Government, to the extent that is practically excluding Independent Jobbers.

Very truly yours,
P. J. O'Gorman, President
Northeastern Nebraska Oil Co.
Norfolk, Neb.

Atlantic to Broadcast

NEW YORK, Sept. 3.—The Atlantic Refining Co. will broadcast six home football games of Yale University this fall, it was announced today. The broadcasts will be carried over stations of the Mutual Broadcasting Co. It was reported that the company paid $20,000 for the privilege of advertising its products in connection with the broadcasts.

OIL TRADEMARKS
For Copyright

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

Pub. Aug. 25, 1936

CLEARTEX, Ser. No. 373,892. Kenneth S. Rupp, doing business as Cleartex Co., Oakland, Calif. Filed Jan. 20, 1936.

For Cleanser and Polish for Glass Windshields and the Like.

MAPORIZE, Ser. No. 371,354. Mapor Corporation, New York, N. Y. Filed Nov. 8, 1935.

For Cleaner for Automobiles, Floors, Wall, Furniture, Floor Coverings, and the Like.

PUMPCRETE, Ser. No. 379,785. Chain Belt Company, Milwaukee, Wis. Filed June 16, 1936.

For Packing and Lubricating Compounds for Plastic Concrete Handling Valves.

GLEN ROSE, Ser. No. 379,965. The Leonard Company, Chicago, Ill. Filed June 19, 1936.

For Motor Lubricating Oils and Gasoline.

NOR' ZONE, Ser. No. 380,385. Commercial Solvents Corporation, New York, N. Y. Filed June 29, 1936.

For Methanol and Radiator Anti-freeze Solutions.

AUTHOL, Ser. No. 380,088. Standard Alcohol Company, Wilmington, Del. Filed June 22, 1936.

For Anti-Freeze Compound.

The likeness of an Eskimo, Ser. No. 377,642. New England Alcohol Company, Everett, Mass. Filed Apr. 25, 1936.

For Anti-Freeze Compositions Especially Suited for Use in Internal Combustion Engine Cooling Systems.

OMNICIDE, Ser. No. 379,979. Superior Chemical Products, Inc., Philadelphia, Pa. Filed June 19, 1936.

For Insecticide.

Kerwin Is Jobber

ST. PAUL—Jack Kerwin, formerly with Rex Oil Co., here, has gone into business for himself through purchase of the Fuel Oil & Gas Co., St. Paul. The company deals mainly in burning oils.

E. E. Giessel has been appointed manager of the parts, shipping, and service departments of the Four Wheel Drive Auto Company. He succeeds Charles H. Redman.

ESSO STATION

NOT CONNECTED
With
Standard Oil Company
(Indiana)

Now motorists in the Middle West can obtain at Esso Stations in St. Louis:

ESSO—for Premium Motor Fuel
ESSOLENE—for Regular Motor Fuel
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ESSO INC.

Please Note That the Standard Oil Company (Indiana) HAS NO CONNECTIONS WITH ESSO STATIONS or ESSO Inc.

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AN EFFORT SUCCEEDS

Seventeen years ago we set out to convince oil companies that Acidless Tallow Oil should be made *exclusively from Tallow*, and that Lard Oils should be made only from grease secured from packing houses. At first we met with little success but today the superiority of these products is universally recognized. We now enjoy a business on these oils far beyond our greatest expectations.

OIL DIVISION

THE MARTIN DENNIS COMPANY 859 Summer Ave. Newark, N. J.

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NAME.....

St-Box.....City-State.....

Company.....Position.....

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Sept. 5, 1936 Sales Shares	High	Low	Last	Week's Change
80	48½	125½	75	788,675	N.P.	Amerada Corp.	50cQ	July 31, 36	1,000	97½	95½	96¼	— ¼
44	29¾	51⅛	36	2,290,412	$25	Associated Oil Co	25c	May 1, 36	10	39½	39½	39½	— ½
28	20½	35⅛	26⅝	2,696,652	25	Atlantic Refining Co.	25cQ	June 15, 36	5,700	27¾	27¼	27½	0
14¾	5⅞	20	14⅛	2,258,779	5	Barnsdall Corp.	20c	Aug. 1, 36	15,000	18⅜	17¾	18¼	+ ¼
9⅞	6¾	28¾	8¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	....	10	27	27	27	— 1
12¼	6½	15¼	11½	13,996,072	N.P.	Consolidated Oil Corp.	15c	Aug. 15, 36	26,100	12½	12⅛	12⅜	0
112½	108½	106⅛	101	132,771	$100	do pfd.	$1.25Q	Sept. 1, 36	....	....	....	....	....
35	15⅛	38½	28⅛	4,722,652	5	Continental Oil Co.	25c	July 31, 36	9,300	31⅛	29⅞	31	+ ⅛
22½	11¾	34¾	21¼	413,333	$10	General Asphalt Co.	....	....	5,100	25	23⅜	25	+ 1⅞
17¾	9⅛	....	....	95,841	100	Houston Oil Co.	....	....	....	....	....	....	....
7	1½	12¼	6⅜	678,234	25	do v.t.c.	....	....	10,100	9⅜	8¾	9	+ ⅛
5¼	2⅛	13⅝	4⅛	1,207,132	10	Indian Refining Co.	....	....	1,200	10½	9	10½	+ ⅝
1⅞	⅜	....	....	1,309,060	N.P.	Louisiana Oil Ref'g. Corp.	....	....	....	....	....	....	....
15	4½	51½	13	40,000	$100	do pfd.	....	....	450	28¾	27	28	— 1¾
3	1	6¾	2¼	330,000	N.P.	Maracaibo Oil Exploration Co.	....	....	5,000	4⅛	3½	4⅛	+ ⅜
20½	9½	23¾	17¼	1,857,912	$10	Mid-Continent Pet. Corp.	40c	June 1, 36	4,300	22¼	21⅜	22	+ ¼
14¼	9¼	17½	12¼	6,563,377	N.P.	Ohio Oil Co.	25c	June 15, 36	12,400	13¼	12⅝	13	0
21	10¾	20⅝	12¼	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	....	....	....	....	....	....
1⅞	½	4¼	1⅜	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	....	500	2⅜	2⅛	2⅛	— ⅛
20	6½	74½	18½	17,994	$100	do pfd.	....	....	....	....	....	....	....
14	7⅝	18	12⅜	2,153,444	5	Petroleum Corp. of America	25c	May 29, 36	1,600	13¾	13½	13¾	0
40	13¾	49⅜	38⅛	4,439,450	N.P.	Phillips Petroleum Co.	25cQC	Sept. 1, 36	24,900	43½	41½	41⅞	— ¼
1¼	¼	2¼	⅞	1,184,817	$25	Pierce Oil Corp.	....	....	....	....	....	....	....
8	2¾	17	8	150,000	100	do pfd.	....	....	200	10½	10¼	10¼	0
1¾	⅝	2½	1½	2,500,000	N.P.	Pierce Petroleum Corp.	....	....	1,900	1¾	1⅝	1⅝	— ⅛
13	6½	16½	11⅞	1,050,000	$5	Plymouth Oil	25cQ	June 30, 36	12,300	17	16½	16⅝	0
17	5⅞	24⅞	16¼	3,038,370	N.P.	Pure Oil Co.	....	....	24,400	17	16⅜	16⅝	— ⅛
103	34¾	118	91¼	167,640	100	do 6% pfd.	$1.50	July 1, 36	1,000	96	95	95	— 1
119⅞	49⅝	133½	103	130,000	100	do 8% pfd.	$2.00	July 1, 36	600	107½	106½	107½	+ 1½
48½	29½	57⅝	48⅜	425,342	a	Royal Dutch Co. (N. Y. shares)	$1.70	Aug. 1, 35	....	....	....	....	....
36⅞	20¾	42½	30½	1,244,383	N.P.	Seaboard Oil of Del.	25c	June 15, 36	1,600	32¼	31¼	32¼	+ ¼
39	20⅜	48	38½	56,148	£2	Shell Transport & Trading Co.	$1.237	July 24, 35	....	....	....	....	....
16½	5½	19⅞	14¾	13,070,625	N.P.	Shell Union Oil Corp.	....	....	12,100	19	18½	19	+ 2
111	63⅛	123¾	110½	400,000	$100	do pfd. w.w.	$1.37½	July 1, 36	300	121¼	120½	121	+ ¾
18¾	4¾	6¾	3½	461,000	10	Simms Petroleum Co.	**$1.00	July 31, 36	3,400	4¼	4⅛	4⅛	+ ⅛
20½	6½	31½	19½	1,100,069	25	Skelly Oil Co.	....	....	800	26¾	26⅜	26½	— ½
116¼	60	132	116	120,000	100	do pfd.	$1.50	Aug. 1, 36	800	126⅞	125	126	— 1¼
15⅜	10⅝	17	12½	31,701,348	15	Socony Vacuum Oil Co.	20c	Mar. 16, 36	25,000	13⅞	13¼	13½	— ⅛
116	111	113½	109⅔	764,925	100	S. O. Export Corp. pfd.	$2.50 S.A.	June 30, 36	....	....	....	....	....
41⅛	27¾	47⅝	35	13,102,900	N.P.	S. O. California	30c	June 15, 36	16,900	35⅞	35⅛	35⅞	+ ⅜
33⅜	23	40⅛	32¾	15,215,677	$25	S. O. Indiana	40c	June 15, 36	11,400	37½	36½	37¼	— ⅛
32	20	30	25	146,542	10	S. O. Kansas	....	....	800	26¾	25	26¾	+ 1¾
52⅜	35¾	70	51⅛	25,740,965	25	S. O. New Jersey	75c	June 15, 36	14,300	63½	61¾	62	— 1½
77	60½	91	72	1,590,406	N.P.	Sun Oil Co.	25cQ	June 15, 36	1,400	80	79½	79½	— 1
121	115½	124	118	100,000	$100	do pfd.	$1.50Q	Sept. 1, 36	80	122½	121	122	+ 1
3½	1⅝	6¾	3	966,979	$1	Superior Oil Corp. (Del.)	....	....	6,200	4	3⅞	4	0
30¼	16½	40	28⅞	9,851,236	$25	The Texas Corp.	25cQ	July 1, 36	13,200	38¼	36½	36½	— ½
9¼	3¼	15¼	7½	930,570	10	Texas Pacific Coal & Oil Co.	25c	Aug. 1, 36	13,700	12¼	11¼	12	+ ⅜
15⅞	7⅝	19⅛	14¾	5,998,919	N.P.	Tide Water Associated Oil Co.	15c	Sept. 1, 36	8,000	16½	16¼	16½	+ ⅛
104½	84	106½	100⅝	695,503	$100	do pfd. C. T. V.	$1.50	July 1, 36	900	105	104⅝	105	0
48	26¾	60	51	2,191,823	N.P.	Tide Water Oil Co.	45c	Aug. 31, 36	....	....	....	....	....
24	14¾	28½	20¾	4,386,070	25	Union Oil of California	25cQ	Aug. 19, 36	3,200	21⅛	20¾	20¾	— ¼
26½	20¼	31⅝	22⅝	1,200,000	N.P.	Union Tank Car Co.	30cQ	June 1, 36	1,200	27¾	26¼	27¾	+ 1¼
1⅝	⅝	2⅞	⅝	759,538	N.P.	Warner Quinlan Co.	....	....	4,200	¾	¾	¾	— ⅛
3⅛	1	5¼	2¾	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	....	800	3⅜	3¼	3⅜	— ⅛

*New high. †New low. x Ex-div. **Dividends of liquidation. ‡Stock dividend. a Par 33 1/3 florins.
C Paid 25c extra Sept. 1, 36.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1935 High	1935 Low	1936 High	1936 Low	Shares Issued	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Sept. 5, 1936 Sales Shares	High	Low	Last	Week's Change
16	6	18	12¼	36,000	$25	Borne Scrymser Co.	50c	Apr. 15, 36	450	16	13½	16	+ 2¾
42½	30½	50	39¾	200,000	50	Buckeye Pipe Line Co.	75cQ	June 15, 36	100	44	44	44	0
157	115	124¾	108⅞	120,000	25	Chesebrough Mfg. Co.	$1.50	June 29, 36	50	121	121	121	+ ½
23¾	10	34¾	19⅞	5,977,873	N.P.	Creole Petroleum Co.	20c	Dec. 31, 35	10,500	23¼	22	23¼	+ ¼
38	33¼	44	39	50,000	$50	Eureka Pipe Line Co.	$1Q	Aug. 1, 36	....	....	....	....	....
64	44	76½	57	8,968,479	N.P.	Humble Oil & Refg. Co.	25cQ	July 1, 36	1,900	65¾	64⅞	65	— 1
22½	15⅜	24½	20	26,919,871	N.P.	Imperial Oil Ltd.	‡25cS.	June 1, 36	10,800	20¾	20⅜	20½	— ¼
22½	15⅞	24⅜	20⅛		N.P.	do registered	25cQ	June 1, 36	....	....	....	....	....
6⅛	3⅝	9¼	5½	300,000	$10	Indiana Pipe Line Co.	20c**	May 15, 36	600	8¾	8½	8¾	+ ⅛
39⅜	28	39⅜	32⅞	14,324,088	N.P.	International Pet. Co.	‡75cS.	June 1, 36	8,400	34	33⅛	33½	— ½
....	....	36½	33⅜	....	....	do registered	....	....	....	....	....	....	....
10⅝	6¾	15¾	9¼	509,000	$12.50	National Transit Co.	35c	June 15, 36	6,600	11¼	10	11¼	+ 1¼
4⅞	3	6¼	4¼	100,000	5	New York Transit Co.	15c S.A.	Oct. 15, 34	100	5¾	5¾	5¾	+ ¼
8	5¼	9¼	4⅞	120,000	10	Northern Pipe Line Co.	15c	July 1, 36	1,300	9	8⅜	9	+ ½
107¼	90¼	110⅜	104⅛	562,122	100	Ohio Oil Co. pfd.	$1.50Q	June 15, 36	100	108¼	108¼	108¼	— 1⅜
11	5½	8	5½	400,000	25	Penn Mex. Fuel Co.	....	Dec. 22, 33	....	....	....	....	....
34½	21⅝	40½	32½	1,200,000	25	South Penn Oil Co.	60c	June 30, 36	1,700	40½	39¾	40⅛	+ ¼
5	3⅞	7⅞	3⅞	100,000	10	Southern Pipe Line Co.	10c	Sept. 1, 36	....	....	....	....	....
56	45¼	60	48	35,000	50	South West Pa. Pipe Lines	$10††	July 1, 36	....	....	....	....	....
24	18	23⅜	17⅛	2,604,790	10	S. O. Kentucky	25c	Mar. 16, 36	2,800	20	19½	19½	— ½
12	7¾	14⅝	11	188,403	25	S. O. Nebraska	....	June 20, 34	500	12½	12⅜	12⅜	— ⅛
23⅝	11½	36¼	21¾	753,740	25	S. O. Ohio	25c	July 15, 36	2,000	32¾	31	32¼	+ ¾
99½	89	107½	97	120,000	100	do 5% pfd.	$1.25Q	July 15, 36	....	....	....	....	....
6	2¼	10	5⅜	34,158	25	Swan Finch Oil Corp.	87½c	Mar. 16, 36	200	9¾	9	9	— ⅝

*New high. †New low. ‡Imperial Oil Spec. 37½c June 1, 36. International Pet. Spec. 50c June 1, 36.
x Ex dividend. **15c regular; 5c extra. ††Return of capital in connection with reduction of capital stock.

Kansas Counties Forming PIC

WICHITA, Kan., Sept. 8.—Petroleum Industries Committees in 24 counties of Kansas have been organized since the second week of August by C. E. Holmes, secretary of the Kansas Oil Men's Association, the K.O.M.A. Bulletin for Aug. 31 says.

The counties scheduled for immediate future meetings are: Norton and Decatur, Sept. 15; Phillips, Sept. 16; Smith, Sept. 17; and Osborne, Sept. 18. During the current week, these counties are meeting: Cherokee and Labette, Sept. 8; Crawford, Sept. 9; Bourbon, Sept. 10; and Neosha, Sept. 11.

NEW YORK CURB BONDS

Week Ending Sept. 5

	High	Low	Last	Change
Cities Serv. 5s '66	82¼	81¼	81¼	— ¾
Cities Serv. 5s '50	81½	79¾	79⅞	—1⅜
Cities Serv. G. 5⅛s '42	102½	102	102½	+ ⅛
Empire O & R 5⅛s '42	86⅝	86	86½	0

OIL AND ROYALTY STOCKS ON NEW YORK CURB

1935 High	1936 Low	1936 High	Par Value	Company	Transactions Week Ended Sept. 5, 1936 Sales Shares	High	Low	Last	Week's Change
1⅛	⅜	1⅞	N.P.	American Maracaibo	2,900	1	⅞	1	0
3⅞	⅝	7⅝	N.P.	Arkansas Nat. Gas	4,000	5¼	5	5¼	+ ⅛
3⅜	⅝	7⅜	N.P.	do A	9,600	5¼	5	5⅛	0
7½	2¼	9⅞	$10	do pfd	5,000	9⅞	9½	9⅞	+ ¼
16⅜	14½	27¼	N.P.	British Amer. Oil coup.	100	23⅜	23⅜	23⅜	— ⅞
....	....	26¼	N.P.	do registered	100	23⅜	23⅜	23⅜	+ ¼
4¼	1⅝	4⅞	$¼	Carib Syndicate	3,100	2⅜	2¼	2¼	0
3¼	⅜	7⅜	N.P.	Cities Service	26,400	4¼	4	4⅛	— ⅛
47¼	6⅛	66	$100	do pfd	2,000	58½	57	57	— ⅜
4⅜	⅝	6½	10	do pfd. B	....	....	....	....	....
43	6	63	100	do pfd. BB	....	....	....	....	....
2⅛	⅛	4	N.P.	Colon Oil Corp	1,100	1	1	1	0
1½	⅛	5½	N.P.	Columbia Oil & Gas vtc.	3,300	3½	3¼	3⅜	0
3	1	5	$1	Consolidated Royalty	2,300	2½	2	2	— ⅛
1½	¼	4⅛	N.P.	Cosden Oil	5,700	3⅛	2⅞	2⅞	0
6¼	⅜	17	$100	do pfd	900	14½	13¾	13¾	— ¼
2⅛	⅝	2¾	N.P.	Crown Central Pet	500	2	1⅞	1⅞	0
8⅞	4	12	N.P.	Darby Petroleum	200	10¾	10	10¾	— ⅛
2	¾	4⅝	N.P.	Derby Oil & Refg	200	4	4	4	+ ¼
20	20	72½	N.P.	do pfd	....	....	....	....	....
74¾	50¼	98	$25	Gulf Oil Corp	2,800	88⅞	85¾	87¾	— ⅜
4¼	1⅜	6¼	N.P.	Indian Ter. Illg. Oil A	200	3	†2⅝	3	0
4¼	1⅛	6½	N.P.	do B	200	3⅛	3	3⅛	+ ⅛
3	1⅞	5⅝	N.P.	Kirby Petroleum	1,400	4⅝	4½	4½	0
¾	¼	2	$25	Leonard Oil Dev	3,200	⅛	¾	¾	0
8¼	3½	15	N.P.	Lion Oil Refg	1,500	13⅝	13	13½	+ ⅛
10⅞	4½	14¼	N.P.	Lone Star Gas	7,100	13⅞	13¼	13½	— ¼
19	4	22¼	N.P.	Margay Oil Co	....	....	....	....	....
2⅜	⅞	4⅛	N.P.	Mexico-Ohio Oil	....	....	....	....	....
3⅜	1⅞	4¾	N.P.	Michigan Gas & Oil	700	3⅝	3⅜	3⅜	— ⅜
3⅞	⅞	6	N.P.	Mid. States Pet. A vtc.	800	3⅝	3¼	3¼	+ ⅛
⅛	⅛	2⅝	N.P.	do B vtc	300	⅛	⅛	⅛	+ ⅛
½	⅛	⅛	$1	Mountain & Gulf	....	....	....	....	....
5¾	4⅛	8⅜	10	Mountain Producers	1,700	5¾	5⅝	5¾	0
20	11¾	23	N.P.	National Fuel Gas	1,200	19½	19⅛	19¼	— ¼
3¼	2	4½	$5	New Bradford Oil	600	3⅛	3	3	— ⅛
4	2	8⅜	N.P.	North Central Texas	....	....	....	....	....
⅛	⅛	⅞	N.P.	North European	....	....	....	....	....
12¾	9⅜	15¼	N.P.	Oil Stocks Ltd. A	500	13⅞	13⅞	13⅞	0
4⅜	1¼	6⅝	N.P.	Pantepec of Venezuela	12,000	5⅜	5	5¼	0
⅜	⅛	1	N.P.	Producers Royalty	1,500	1/16	1/16	1/16	+ 1/16
3¾	½	15½	N.P.	Red Bank Oil	8,300	11½	9⅞	11½	+ 1⅜
½	1/32	1½	N.P.	Reiter-Foster Oil	1,500	⅝	½	½	0
2⅞	½	2¾	$25	Richfield Oil pfd	2,800	⅞	⅝	⅞	+ ⅛
5	1½	19¼	$1	Root Petroleum	2,400	15⅝	15	15⅝	+ ⅝
15⅛	8	23	20	do conv. pr. pfd	100	18½	18½	18½	0
....	....	39	$10	Royalty Corp. pfd	....	....	....	....	....
2½	⅝	4¾	N.P.	Ryan Consolidated	1,500	3⅝	3¼	3⅜	+ ⅛
1	1/16	2⅛	$10	Salt Creek Consolidated	....	....	....	....	....
7½	5½	10	10	Salt Creek Prod	800	7⅛	7	7⅛	0
6⅞	4¾	11¼	N.P.	Southland Royalty	600	8⅞	8	8¼	— ¼
2⅞	⅞	5	$5	Sunray Oil	5,900	3¾	3⅝	3⅝	— ⅛
4	2	6	$1	Swiss Oil Corp	4,300	5¼	5	5⅛	+ ⅛
6⅞	5	9¾	N.P.	Texon Oil & Land	600	6	5⅞	5⅞	— ⅛
....	....	3¼	....	Venezuela Mex	....	....	....	....	....
2¼	1/16	3½	$1	Venezuela Petroleum	2,000	1⅜	†1¼	1¼	0
6⅛	3½	11	$1	Woodley Petroleum	800	8⅜	8	8⅜	0

*New high. †New low.

OIL DIVIDENDS

Dividends Waiting Payment

Company	Amount	Record	Payable
Atlantic Ref. q	25c	Aug. 21	Sept. 15
Borne Scrymser spec.**	75c	Sept. 25	Oct. 15
Buckeye Pipe Line q	75c	Aug. 21	Sept. 15
Chesebrough Mfg. Co. q.	$1.00	Sept. 7	Sept. 30
do extra	50c	Sept. 5	Sept. 30
Gulf Oil Corp	25c	Sept. 15	Oct. 1
Humble Oil & Refg. q	25c	Sept. 1	Oct. 1
do extra	25c	Sept. 1	Oct. 1
Kirby Petroleum	10c	Aug. 31	Sept. 15
McColl Frontenac q	20c	Aug. 15	Sept. 15
Ohio Oil 6% pfd. q	$1.50	Aug. 31	Sept. 15
Pet. Corp. of Amer	25c	Sept. 10	Sept. 30
Plymouth Oil	25c	Sept. 10	Sept. 30
Pure Oil Co. 5¼% pfd. q	$1.25	Sept. 10	Oct. 1
Pure Oil Co. 6% pfd. q	$1.50	Sept. 10	Oct. 1
Pure Oil Co. 8% pfd. q	$2.00	Sept. 10	Oct. 1
Seaboard Oil q	25c	Sept. 1	Sept. 15
Shell Union Oil pfd. q	$1.375	Sept. 10	Oct. 1
Skelly Oil 6% pfd	$16.00	Oct. 1	Nov. 2
Socony-Vacuum Oil Co.	25c	Aug. 19	Sept. 15
South Penn Oil q	22½c	Sept. 15	Sept. 30
do extra	37½c	Sept. 15	Sept. 30
Standard Oil of Calif.	25c Q	Aug. 15	Sept. 15
Stand. Oil of Calif. extra	5c	Aug. 15	Sept. 15
Standard Oil of Ind.	25c Q	Aug. 15	Sept. 15
Stand. Oil of Ind. extra	25c	Aug. 15	Sept. 15
Standard Oil of Ky.*	35c	Aug. 31	Sept. 15
Sun Oil Co. q	25c	Aug. 25	Sept. 15
Texas Corp.	25c Q	Sept. 4	Oct. 1
Texas Corp. extra	25c	Sept. 4	Oct. 1
Tide Water Assoc. pfd. q.	$1.50	Sept. 10	Oct. 1
Union Tank Car q	30c	Aug. 17	Sept. 1

*Paid 25c March 16, 36.
**Paid 50c Apr. 15, 36.

CLEVELAND STOCK EXCHANGE

Transactions Week Ended Sept. 5, 1936

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd	....	....	....	....	....
Nat'l Refining	855	8½	8	8½	+ ⅞
do pfd	71	102	102	102	+2

PITTSBURGH STOCK EXCHANGE

Transactions Week Ended Sept. 4, 1936

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	25	4¾	4¾	4¾	— ½
do pfd	603	9¾	9½	9¾	+ ½
Cities Serv	654	4⅛	3¾	4	+ ⅜
Col. Gas & Elec	1,498	21⅞	21⅛	21⅛	— ⅝
Col. Oil & Gaso	148	3⅜	3⅛	3⅛	0
Devonian Oil	100	18½	18½	18½	+1
Lone Star Gas	4,810	13⅞	13½	13½	— ¼
do 6 p.c. conv. pfd	71	100⅛	100⅛	100⅛	—1⅝
Mountain Fuel Supply	8,123	6⅞	5⅛	6⅞	+1¾
Pgh. Oil & Gas	275	1¼	1¼	1¼	0
Shamrock Oil & Gas	3,810	4	3⅞	4	+⅛
Standard Oil of N. J.	108	63⅜	61⅞	61⅞	—1⅞

NEW YORK BONDS

Week Ended Sept. 5

	High	Low	Last	Change
Pan Amer. Pet. of Calif. 6s	40	40	40	+1
do 6s ctfs	38¼	38	38	— ½
Pure Oil 4⅛s w.w.	113¼	112¼	113¼	+ ¼
Pure Oil 4⅛s x.w.	104½	104⅛	104½	0
Richfield Oil of Calif. 6s	42	40¼	40¼	—1¾
do 6s ctfs	41⅝	40	40¼	— ½
Shell Union Oil 3⅛s '51	98	97⅜	97¾	0
Skelly Oil 4s '51	100⅜	100	100	— ¼
Socony-Vacuum	105¾	105¼	105¾	+ ⅜
Union Oil of Calif. 6s A	120½	120⅜	120⅜	— ⅛
do 4s	115½	115	115½	+ ¼
Warner-Quinlan 6s	30	28¼	30	+1

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DYKEM ORANGE GY
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(reddish orange shade)

DYKEM ORANGE GR
(deep orange shade)

DYKEM BRONZE ORANGE R
(bronze orange shade)

DYKEM AMBER Y
(amber shade)

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(sunset golden shade)

DYKEM YELLOW N
(lemon shade)

DYKEM GREEN GN
(bright emerald shade)

DYKEM GREEN YN
(medium emerald shade)

DYKEM GREEN N
(bluish grass shade)

DYKEM GREEN BN
(deep sea shade)

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(deep sky shade)

DYKEM VIOLET
(deep violet shade)

DYKEM PURPLE R
(bright purple shade)

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Part of Preferred Arrears To Be Paid by Skelly

Directors of Skelly Oil Co. have voted to pay a dividend of $6 on the company's six per cent cumulative preferred stock of which there are 66,300 shares outstanding. On Aug. 1, 1936, dividends on this stock were in arrears $30. On that date the company paid $1.50 a share, the first payment in 5 years.

This action was taken following a decision to abandon plans to redeem this preferred stock. A special meeting of stockholders had been called to vote on the retirement of the issue. The meeting was adjourned several times to Sept. 1 at which time no action was taken.

The company's report for the first six months of this year showed net income of $2,203,836, after all charges including preferred dividend requirements for the period, equal to $1.98 a share on the $15 par common stock. In the first six months last year, net income was $737,101, equal to 53 cents a share on the common after preferred dividends for that period.

Indiana Standard Reduces Gasoline, Kerosine

CHICAGO—On Sept. 4, S. O. Indiana reduced tank wagon and service station prices of all grades of motor gasoline 0.3-cent at all points in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Missouri, Kansas, and North and South Dakota.

On the same date, and throughout the same territory, the company reduced retail kerosine prices 0.9-cent at all points where prices were not below the so-called general normal.

Tank wagon and dealer prices for gasoline and kerosine were reduced the same amounts in Iowa, where the company does not post service station prices.

At points where prices had been more than 0.3 and 0.9-cent below the generally accepted normal price, no change was made.

These cuts represent the first general reduction in either of these products this year.

In fact with the exception of local cuts made generally to meet competitive conditions, gasoline prices have worked higher since Feb. 2, 1935. On that date, according to records, the Indiana company made its last general reduction in retail gasoline prices.

Since 1931, reductions in retail kerosine prices have been made only as competitive conditions, freight rate changes, etc., dictated, and were limited to small areas within the territory. The Sept. 4 general reduction marks the first such change since early in 1931.

The reduction came shortly before the company completed its announced intention of leasing all company-owned service stations in Indiana, Kansas, Missouri, Michigan, Minnesota, South Dakota, and Wisconsin.

Standard Oil Dividends Up

NEW YORK, Sept. 5.—Cash dividend payments of companies in the Standard Oil group increased $12,258,344 during the third quarter of 1936 over those in the similar period in 1935, according to Carl H. Pforzheimer & Co. Total payments for this period for 1936 were estimated at $29,911,505 compared to $17,653,161 in 1935.

Cash payments for the first nine months of 1936 reached $124,661,144, compared to $99,597,384 in the corresponding period in 1935. Chief contributors to the increase were the Standards of California and Indiana and the Humble Oil and Refining Co. and Socony-Vacuum Oil Co. Two pipeline companies, Northern Pipe and Southern Pipe, cut payments in 1936 from those in 1935.

Form Joint Oil-Heat Group

NEW YORK, Sept. 3.—The first step in the formation of a joint organization representing both the fuel oil and oil burner industries, in metropolitan New York City was taken at a meeting at the Pennsylvania hotel here Sept. 2. The group voted to continue as a permanent organization and appointed Earl Marr of Westinghouse Electric Supply Co. as permanent chairman and empowered him to form a continuing organization.

The meeting was called by the Oil Burner Institute as the first of a series of regional group meetings in this area to discuss problems confronting the industry. Over 250 representatives of oil burner and fuel oil companies were present.

Representative leaders of the two groups gave short talks after which an open forum was held. Legislative problems, gas and coal competition and free burner service were the topics receiving the most discussion.

South Penn Earnings Higher

South Penn Oil Co. reports net profit of $1,489,555, after all charges, equal to $1.30 a share on its capital stock for the first six months, 1936.

This compares with net profit of $1,051,203 or 92 cents a share in the first six months, 1935.

Joins Law Firm

LOS ANGELES, Sept. 3.—J. Hart Dasteel, formerly with Union Oil Co., is now associated with Joseph Musgrove in the general practice of law, with offices in suite 720 A. G. Bartlett Bldg.

June Gasoline Consumption Shows 14.28 Per Cent Increase

NEW YORK, Sept. 4

GASOLINE consumption in June, 1936, increased 14.28 per cent over consumption in June, 1935, according to figures compiled by the American Petroleum Institute from state tax reports. Total consumption for June, 1936, was 1,808,571,000 gallons, or 60,286,000 gallons daily. This compared with consumption of 1,716,365,000 gallons (revised figure) for May, 1936.

Detailed figures are given in the accompanying table.

Gasoline Consumption by States, June, 1936

(Figures in Thousands of Gallons)

	Month of			% Chge. 1936	6 Months Ending With		% Chge. 1936
	May, 1936	June, 1936	June, 1935	over 1935	June, 1936	June, 1935	over 1935
Alabama	16,285	17,125	14,109	+21.38	93,093	80,056	+16.28
Arizona	7,545	8,166	6,977	+17.04	45,881	38,519	+19.11
Arkansas	12,284	12,871	11,578	+11.17	*68,997	64,179	+ 7.51
California	123,819	140,152	128,732	+ 8.87	780,777	685,628	+13.88
Colorado	17,145	18,849	17,481	+ 7.82	92,654	82,599	+12.17
Connecticut	26,395	27,394	25,040	+ 9.40	131,339	118,688	+10.66
Delaware	4,702	4,677	4,495	+ 4.05	22,335	20,420	+ 9.38
Dist. of Columbia	11,209	10,912	10,401	+ 4.91	59,552	54,542	+ 9.18
Florida	25,670	22,300	21,792	+ 2.33	164,924	155,682	+ 5.81
Georgia	23,994	24,866	21,934	+13.37	136,063	126,337	+ 7.70
Idaho	7,669	8,302	6,887	+20.54	35,429	29,900	+18.49
Illinois	109,346	108,852	95,412	+11.09	544,561	485,245	+12.22
Indiana	51,863	51,751	44,620	+15.98	255,972	226,806	+12.86
Iowa	45,968	44,837	36,405	+23.16	210,947	192,024	+ 9.85
Kansas	39,259	50,621	40,317	+25.56	212,770	187,556	+13.44
Kentucky	19,289	22,083	16,869	+30.91	101,982	91,708	+11.20
Louisiana	17,879	18,500	15,386	+20.24	100,108	87,393	+14.55
Maine	12,006	13,580	11,620	+16.87	53,709	47,280	+13.60
Maryland	21,809	22,369	19,334	+15.70	110,060	98,540	+11.60
Massachusetts	59,455	61,544	57,629	+ 6.79	293,428	271,478	+ 8.08
Michigan	88,846	91,831	79,014	+16.22	444,260	404,344	+ 8.87
Minnesota	46,671	48,546	39,886	+21.71	207,585	192,640	+ 7.76
Mississippi	13,601	13,537	11,082	+22.15	73,833	65,607	+12.54
Missouri	47,591	50,612	43,429	+16.54	258,112	233,002	+10.78
Montana	11,082	11,149	9,199	+21.20	49,484	41,604	+18.94
Nebraska	20,305	19,328	19,135	+ 1.01	104,428	104,211	+ 0.21
Nevada	2,702	3,285	2,790	+17.74	14,803	13,515	+ 9.53
New Hampshire	7,089	7,828	6,850	+14.28	33,754	30,242	+11.61
New Jersey	82,836	91,490	71,181	+28.53	424,432	373,777	+13.55
New Mexico	6,194	6,878	5,461	+25.95	34,464	28,220	+22.13
New York	156,404	151,683	143,399	+ 5.78	755,112	723,640	+ 4.35
North Carolina	29,414	29,474	25,324	+16.39	155,567	142,069	+ 9.50
North Dakota	13,641	11,083	10,520	+ 5.35	49,554	55,042	— 9.97
Ohio	102,950	107,132	90,236	+18.72	535,057	486,353	+10.1
Oklahoma	30,523	36,608	30,420	+20.34	175,576	153,139	+14.65
Oregon	16,558	19,019	16,594	+14.61	95,202	82,691	+15.13
Pennsylvania	115,551	117,351	118,886	— 1.29	575,481	558,798	+ 2.98
Rhode Island	10,130	11,276	9,802	+15.04	52,478	49,162	+ 6.74
South Carolina	13,230	13,513	11,922	+13.34	74,554	68,544	+ 8.77
South Dakota	10,614	11,984	10,777	+11.20	52,491	55,997	— 6.26
Tennessee	20,458	21,727	18,395	+18.11	112,812	102,929	+ 9.60
Texas	84,855	101,357	81,352	+24.59	514,750	452,270	+13.81
Utah	6,950	7,651	6,478	+18.11	35,707	30,906	+15.51
Vermont	5,171	5,696	5,079	+12.15	24,230	20,669	+17.23
Virginia	27,041	28,299	24,676	+14.68	141,019	129,408	+ 8.97
Washington	24,798	28,634	24,421	+17.25	144,633	125,010	+15.70
West Virginia	16,238	16,511	14,258	+15.80	81,521	73,147	+11.45
Wisconsin	†46,623	49,526	39,984	+23.86	220,193	195,399	+12.69
Wyoming	4,708	5,182	4,969	+16.96	23,613	10,196	+16.92
Total	1,716,365	1,808,571	1,582,537	+14.28	8,979,280	8,157,291	+10.08
Daily average	55,367	60,286	52,751	+14.28	49,337	45,068	+ 9.47
Change from previous year:							
Total change		+226,034			+821,989		
Per cent chg. in daily av.		+14.28%			+9.47%		

*June, 1936—First four (4) months revised as follows: January—11,584,000 gallons; February—8,680,000; March—11,456,000 and April—12,122,000.

†Revised.

OIL INDUSTRY EXCHANGE

Positions Wanted

SALES AND OPERATING EXECUTIVE. Seven years executive experience. Past four years *Manager* of independent marketing company operating individual brand stations over wide territory. Previous experience with integrated companies. Good record. Proven ability to market economically, build business and develop organization. Now employed, but considering change. Thoroughly capable of assuming responsible executive duties with established private brand marketer or of developing new company or territory this type operation, and well qualified handle state organization or department of same for integrated company. *Desire opportunity produce results.* Salary secondary. Address Box 345.

SECRETARY, FEMALE, twenty-five years' experience (over ten in oil industry) desires position in or near Boston. Can furnish recommendations. Address Box 350.

WISH CONNECTION with reliable jobber organization in middle western state, to take charge of sales and management. Capable of handling all details. Over 10 years experience with major company both in wholesale and retail sales and operations, can develop new sales outlets economically. Would consider making investment. Address Box 346.

SALESMAN. Twelve years experience handling carload sales fuel oils and gasoline. Wide acquaintance jobber trade. Good sales record. Capable, aggressive, married. Address Box 347.

EXPERIENCED AND SUCCESSFUL SALESMAN. Extensive contacts over all southern states. Available for connection as tank car, branded oil or service station equipment representative. Splendid references. Address Box 349.

Situations Open

SALESMAN WANTED for Indiana, also one for Wisconsin. Acquainted with the oil jobbers. Must be experienced. Address Box 348.

Professional Services

ANTI-KNOCK VALUE DETERMINATIONS
THE GRAY INDUSTRIAL LABORATORIES
Chemists and Engineers
Specialists on Petroleum Products
961-976 Frelinghuysen Ave.,
NEWARK, N. J.
Telephone Bigelow 3-4020

SALE OF OIL COMPANIES NEGOTIATED
Efficient and Confidential Handling.
WM. WISHAR
Broker of Oil Marketing Properties
2331 Grandview, Cleveland Heights, Ohio.

PHOENIX CHEMICAL LABORATORY
AN EXCLUSIVE PETROLEUM TESTING LABORATORY
Equipped for all known tests and research in petroleum products
8953 Castello Ave. Chicago
Telephone—Spalding 3578

Taxes can make us all "LAND POOR"

WHAT do we mean when we say a man is LAND POOR?

We mean that his regular expenses are EATING HIM UP. We mean his overhead is TOO HIGH. He may do as well as the next man in a good year. But when a BAD YEAR comes, he goes DOWN AND OUT.

We used to think a man couldn't be LAND POOR if he owned his farm outright. We thought just so long as he had no mortgage interest to pay, he could get by.

But that was BEFORE TAXES WENT UP. There's land all over the country today that a man can't afford to take as a GIFT. Even if he owned it clear, TAXES would prevent him from making a living out of it. TAXES have made fair land worse than worthless, and TAXES have made good land WORTH LESS than it should be.

You could stand land taxes IF THEY WERE ALL YOU HAD TO PAY. But taxes are also hidden in everything you buy. Our national tax bill equals 1/3 of what is spent in STORES. GASOLINE for your car averages 40% to 60% taxes. GOVERNMENT SPENDING NOW EQUALS ALMOST 1/3 OF OUR NATIONAL INCOME.

For years the tax-grabbing politicians have been RIDING the farmer and the city worker alike. Total expenses of government now equal $517.00 A FAMILY. Probably 1/3 of this is WASTED—or $166.00 yearly per family. IS THIS WORTH SAVING?

Let's stop government waste. Let's replace every tax grabber—no matter what party he belongs to—with a wise, careful lawmaker. Hard-working citizens in city and country can do it if they will TEAM TOGETHER in a non-partisan effort. Here are two things you can do RIGHT NOW. They can't do any harm, and if everybody works together, they can do AN IMMENSE AMOUNT OF GOOD.

MAKE THIS RESOLUTION—"I will oppose every political candidate who cannot prove that he has used all his influence to reduce government expenditures."

WRITE THREE LETTERS—one to your County Clerk, one to your Governor, one to the President of the United States. Say, in each letter, just this: *"I want the cost of government reduced."*

REGISTER—VOTE—Give your support to candidates, regardless of party, who WILL cut the waste out of government.

Space for this message is provided by National Petroleum News because of a firm conviction that a reduced cost of government is vital to the interests of all its readers